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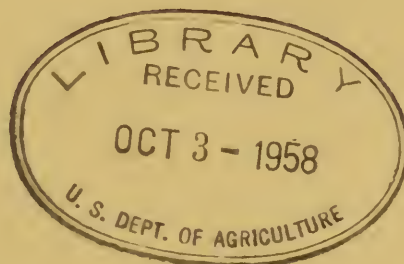
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Estuaries

**ST. FRANCIS RIVER
AND TRIBUTARIES PROJECTS
(ARKANSAS)**

MISSISSIPPI RIVER AND TRIBUTARIES



**UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Little Rock, Arkansas**

ST. FRANCIS RIVER AND TRIBUTARIES

(ARKANSAS)

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT STUDY

REPORT ON

PRESENT AND ANTICIPATED AGRICULTURAL CONDITIONS

Prepared by The
U. S. Department of Agriculture for the Mississippi River Commission

Soil Conservation Service
Little Rock, Arkansas
December, 1957

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LEGEND

- Watershed Divide
- ~~~~~ Levee Completed or Under Construction
- Levee to be Constructed
- Project Ditch (Completed or Under Construction)
- Ditch Authorized for Construction
- Bounds Affected Area
- (29) Area Number



KEY

- | | |
|------------------------------------|---------------------------------------|
| 1. BLACKISH BAYOU REACH 1 | 15. BUFFALO DITCH REACH 1 |
| 2. BLACKISH BAYOU REACH 2 | 16. BUFFALO DITCH REACH 2 |
| 3. BLACKISH BAYOU REACH 3 | 17. BUFFALO DITCH REACH 3 |
| 4. EIGHTEEN MILL DITCH | 18. MOREY CYPRESS DITCH |
| 5. TYRONZA RIVER REACH 1 | 19. COCKLE BURR SLOUGH DITCH REACH 1 |
| 6. TYRONZA RIVER REACH 2 | 20. COCKLE BURR SLOUGH DITCH REACH 2 |
| 7. TYRONZA RIVER REACH 3 | 21. TRIBUTARIES OF COCKLE BURR TRILET |
| 8. BIG CREEK REACH 1 | 22. DITCH # 10 |
| 9. BIG CREEK REACH 2 | 23. DITCH # 123 REACH 1 |
| 10. DITCH # 40 | 24. DITCH # 123 REACH 2 |
| 11. DITCH # 1 REACH 1 | 25. BIG BAY DITCH # 1 |
| 12. DITCH # 1 REACH 2 | 26. EIGHT MILE CREEK DITCH REACH 1 |
| 13. DITCH # 21 | 27. EIGHT MILE CREEK DITCH REACH 2 |
| 14. RIVERVALE CULVERT RELIEF DITCH | 28. LOCUST CREEK DITCH |

10 0 10
SCALE IN MILES

Base From Map prepared by U.S. Corps of Engineers, Memphis, Tennessee, to accompany Survey Report dated 7-1-51, Serial 13663, File 41/1b1.



VICINITY MAP

PROJECT AREA LOCATION MAP
MISSISSIPPI RIVER & TRIBUTARIES PROJECT
ST. FRANCIS RIVER & TRIBUTARIES
AR K A N S A S
U S DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
LITTLE ROCK, ARKANSAS

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AUTHORITY

This report has been prepared by the Soil Conservation Service, U. S. Department of Agriculture, covering studies made under Section 6, Public Law 566, 83d Congress and upon request of the Mississippi River Commission. Specific request to initiate this particular project area study was made October 22, 1956, by the District Engineer, Memphis District, Corps of Engineers, Department of the Army. The basis for study was agreed on as set forth in the Project Study Statement, dated February 5, 1957.

AGENCY PARTICIPATION AND RESPONSIBILITIES

Material contained herein is based upon the data at hand and the combined judgment of available agricultural technicians most familiar with the project area and its agricultural conditions and problems. Under a U. S. Department of Agriculture Memorandum of Understanding, consummated February 2, 1956, the U. S. Forest Service, the Agricultural Research Service, and the Soil Conservation Service have each participated in the study. From time to time assistance of other persons, such as representatives of the Agricultural Extension Service, State College of the Agriculture and Experiment Stations, and other agencies, has been given.

The Agricultural Research Service has been responsible for developing field crop and livestock commodity price data, field crop and livestock enterprise production cost data, interest rates for capitalization, amortization and discounting, and has assisted the Soil Conservation Service in studies of field crop and pasture yields and in overall economic procedures.

All woodland yields, values and costs were developed by the Forest Service.

The Soil Conservation Service, through the office of the Arkansas State Conservationist, has in general been responsible for coordinating and conducting the study and preparing this report. It has classified the soils of the area in accordance with the major soil groupings. It has estimated land use and cropping patterns, extent and cost of land use conversions, and extent and cost of farm and group drainage systems.

METHOD OF COMPUTING AGRICULTURAL VALUES CREDITABLE TO PROJECT

Data presented in this report are intended to portray three different situations with respect to land use, cropping patterns, crop yield, etc. - (1) the current situation, (2) the future situation without the proposed project, and (3) future conditions with the proposed project. The basis for computing agricultural benefits in this report is the difference between the second and third situation listed. The major reason for this type of calculation is that it provides a systematic means of excluding non-project influences which are expected

whether a project is installed or not. Because of current land development operations and expected changes in commodity price and price-cost relationships, for example, future land use and cropping systems without the project may be quite different than present. This difference is not credited to the project.

LIMITS OF APPLICATION OF ESTIMATES

The estimates cover an appraisal of the agricultural values and costs that can be expected as a result of agricultural drainage in association with installation of the proposed project works. However, the data includes no estimates of flood damage reduction, its values or costs, though the land use and cropping estimates reflect the flood protection that would be afforded by the proposed project works. Average flood-free yield estimates have been used throughout the study so that they can be used as a basis for calculation of flood damage reduction by the Corps of Engineers, based upon its own hydrologic studies. The Department of Agriculture, having made no hydrologic studies of its own in the area, has developed estimates on the basis of hydrologic data provided by the Corps of Engineers, including the delineation of limits of project effectiveness, and maximum overflow that established the conditions for project study. Further studies may result in revised hydrologic data that would require modification of the agricultural data contained herein.

The limits of project effectiveness established by the Corps of Engineers on the basis of engineering studies were accepted as the basis for compilation of agricultural data. All soils of such characteristics as to not require drainage have been eliminated from drainage evaluations. However, no attempt has been made by the Department of Agriculture to designate areas, within the limit of project effectiveness provided by the Corps, which because of elevation might be drained without the project and hence not properly credited as benefiting from the project. Further engineering studies by the Corps may reveal the desirability of eliminating some acreages of that type from the computations contained herein. The Department of Agriculture does not have responsibility for that phase of the study.

DESCRIPTION OF THE PROJECT

The St. Francis River and Tributaries (Arkansas) Project consists of cleanout, enlargement and realignment for seventeen St. Francis River tributaries having outlets in Arkansas, except in the Pettyville sub-area where the proposed improvement consists of a pumping station. These tributary drainage areas are itemized as follows:

Tributary	:Number:		: Acres			Total
	: of	: Reaches	Zone A	Zone B	Zone C	
(1) Blackfish Bayou	: 3	:	71,853	: 31,511	: 1,596	: 104,960
(2) Fifteen Mile Bayou	: 1	:	99,424	: 4,536	: 1,640	: 105,600
(3) Tyronza River	: 3	:	94,969	: 32,391	: -	: 127,360
(4) Big Creek	: 2	:	108,646	: 15,514	: -	: 124,160
(5) Ditch # 40	: 1	:	105,702	: 1,818	: -	: 107,520
(6) Ditch # 1	: 2	:	17,568	: 6,752	: -	: 24,320
(7) Ditch # 21	: 1	:	10,528	: 13,792	: -	: 24,320
(8) Rivervale Culvert Relief Ditch	: 1	:	12,160	: -	: -	: 12,160
(9) Buffalo Ditch	: 3	:	128,608	: 40,352	: -	: 168,960
(10) Honey Cypress Ditch	: 1	:	25,555	: 1,325	: -	: 26,880
(11) Cockle Burr Slough Ditch	: 2	:	45,004	: 2,815	: 181	: 48,000
(12) Tribs of Cockle Burr Inlet	: 1	:	20,198	: 3,482	: -	: 23,680
(13) Ditch # 10	: 1	:	108,268	: 40,212	: -	: 148,480
(14) Ditch #123	: 2	:	29,229	: 21,331	: -	: 50,560
(15) Big Bay Ditch # 1	: 1	:	46,682	: 678	: -	: 47,360
(16) Eight Mile Creek Ditch	: 2	:	35,315	: 4,365	: -	: 39,680
(17) Locust Creek Ditch	: 1	:	62,816	: 6,304	: -	: 69,120
TOTAL	: 28	:	:1,022,525	:227,178	:3,417	:1,253,120

No federal construction has been done on any of the sub-areas to be studied except on Tyronza River, where channel improvement, including a cut-off, was performed during 1939 and 1940 from mile 15 upstream to a point about 1.2 miles above U. S. highway 63.

The purpose of project improvements is to furnish major drainage outlets to serve agricultural drainage within the drainage areas of the St. Francis River tributaries studied and reported in this document, consisting of 1,253,120 acres, and to provide alleviation of flooding that

affects 230,595 acres.

For the purpose of this study, the St. Francis River levees and associated interior drainage facilities, the authorized pumping plant and floodgate near the mouth of St. Francis River, the St. Francis River Channel Improvement (authorized and under construction), and the St. Francis Bay and Straight Slough ditch were considered to be in place for the "Future Without Project" conditions.

The proposed facilities are designed to serve as major outlets for farm and group drainage systems for a total area of 1,253,120 acres in Northeastern Arkansas and, the southwest part of the "bootheel" of Missouri. The area has been divided into three zones of overflow hazards, based upon boundaries, elevations, and acreage tabulations as furnished by the Corps of Engineers. An area of 1,022,525 acres (zone A) lies above limits of overflow. An area of 227,178 acres (zone B) is affected by flooding that can be alleviated by project works to an extent that will improve agriculture; this area is that from the experienced 1950 flood line as modified by that portion of the authorized project not then constructed, to the one-in-three-year flood line. An additional area of 3,417 acres (zone C) lies below the elevation of three-year flooding frequency, and is subject to flooding of such frequency as to preclude further agricultural development as a result of project installation.

This project is essentially agricultural in nature. Agricultural benefits that could accrue to the project would be almost entirely from improvement in farm and group drainage systems and associated technology. Without these associated facilities only meager agricultural benefits could accrue to the project. The proposed improvements are integral parts of the farm and group drainage systems.

The project area is typical of the farming area of Eastern Arkansas and southeastern Missouri insofar as soils and cropping systems are concerned. General farming predominates; cotton, rice, soybeans and live-stock feed crop production are the major enterprises. The area as a whole differs markedly from the rest of the Eastern Arkansas alluvial area, in that it has attained a fairly high level of development. It is estimated that about 80 to 90 percent of the land area is in farm operating units of 280 acres or more, and this condition is anticipated to exist in the future situation. Because of the somewhat higher elevations, the high proportion of sandy soils, nearness to population centers with good markets, etc., the area has developed rapidly and is expected to continue this trend as technology becomes available and feasible.

SOILS

The soils of that part of the St. Francis River Basin in Arkansas are composed, in the greater part, of alluvium from the Mississippi River and its Tributaries. A minor amount (about 6.8 percent) of the project area is of soils of the loess terrace, and an additional amount (about 5.1 percent) of the area is of soils of Crowley's Ridge.

Soils of Crowley's Ridge (soil mapping unit 15S), comprising about 5.1 percent of the area studies, are above the zone of overflow and are in no way effected by the project. They do have a bearing on the project, however, due to rapid runoff and relatively high rate of sediment production. The runoff and sediment increase the costs of farm and group drainage installation and maintenance by considerable amounts in those reaches of the project study having portions of Crowley's Ridge in their headwaters.

Approximately 13.1 percent of the project area is comprised of sandy loam and loamy sand soils (soil mapping units 11, 11SU, 12, 12SU). These are well drained soils normally requiring no drainage improvements, due to permeable structure and somewhat higher elevations than surrounding wet soils. These bottomland and low terrace soils are presently well developed agriculturally and yields are moderately high in average years under good management. Yields are drastically reduced on these soils in dry years, due to the soils' low water holding capacity.

Coarse textured poorly drained soils (soil mapping unit 16) comprise about 5.3 percent of the project area. These soils occur mostly in the north central part of the project area, and are of great importance locally. The coarse textured surface soils are underlain with heavy clays of alluvial origin; this heavy clay layer inhibits internal drainage, thus adversely affecting plant growth during wet seasons. These soils are inherently productive and high yields of adapted crops can be regularly obtained when adequate drainage systems are installed.

Sandy loams and silt loams predominate on about 27.5 percent of the area. They are usually underlain at varying depths by heavy clays of alluvial origin; surface soils are of both alluvial and aeolian origin.

These soils occupy low terrace positions (soil mapping units 4, 4SU, 7) in bottomland landscapes and upland positions (soil mapping units 9, 10) on the loess terrace. In the area studied, the low terrace group listed constitutes about 22.6 percent of the total area, and is of great importance. Soils in this group, particularly soil mapping unit 4, yield the highest production levels in the area when drained and properly managed. The silt loam soils of the loess terrace, comprising about 4.9 percent of the area, are particularly adapted to rice culture. These soils are poorly to moderately well drained and consequently are fairly highly developed agriculturally and have moderately high present production levels; however, these soils respond well to drainage improvement. All the soils in this group are confined to intermediate elevations in the landscape.

A minor amount, about 0.4 percent, of the project area is comprised of medium textured (sandy loam and silt loam) poorly drained bottomland soils (soil mapping unit 6). These soils differ from the medium textured group just above, in requiring more intensive drainage systems; and, from the fine textured group below, in having somewhat higher yield levels under comparable conditions.

Approximately 7.9 percent of the project area is composed of poorly drained clay soils intermingled with excessively drained sandy soils (soil mapping unit 3). These soils occur mostly in the north central part of the project area, and are closely associated with the soils of soil mapping unit 16. These soils are moderately well developed at present and are yielding at moderately high production levels. Because of flat topography, low elevations, and slow permeability of the clays, surface flooding and waterlogging tend to prevail during the early part of the growing season unless artificial drainage is provided. The soils are inherently productive and high yields of adapted crops can be regularly obtained under good management when surface water accumulations are rapidly removed.

The remainder of the project area, comprising approximately 40.7 percent of the total, is composed of poorly and somewhat poorly drained clay soils (soil mapping units 1, 1SU, 2, 2SU). These soils are presently moderately well developed agriculturally and are yielding moderate production levels. However, they contribute some of the highest production increments from drainage improvement. Because of the flat to depressed or undulating topography, during periods of excessive rainfall - usually several times each cropping season - surface flooding and waterlogging conditions prevail unless intensive farm and group drainage systems are provided. The soils are inherently productive and excellent yields of adapted crops can be regularly obtained when surface water accumulations are rapidly removed.

LAND USE

About 89 percent of the project area exclusive of Crowley's Ridge is open land, about 10 percent is wooded, with negligible amounts, about .5 percent each, of urban and watered areas. There is a much higher percentage of woodland on soil units 1 and 2 than on the better drained soils of the project area.

In many reaches, woodland is almost nonexistent, and in many others virtually all woodlands will be converted to open land uses without project installation. With installation of the various projects, it is anticipated that virtually all woodlands will be converted to cropland uses, except for minor acreages dedicated to some specific use other than timber production, such as hunting clubs, which presently own some 3 percent of the total woodland area.

Few large and continuous woodland tracts are found, being generally quite small and of less than a section in size. Much of this woodland is along or adjacent to the present drainage system of streams, ditches, lakes or swamps. Timber stands range from heavily cut over to volumes in excess of 8,000 board feet per acre. Species composition varies, with many slow growing, undesirable and cull trees occupying a large portion of the present woodland.

CROPPING PATTERNS

Cropping patterns on open land vary chiefly with the soil mapping unit and with drainage improvement of the wetland soils. (Little difference in cropping patterns in zone B, as compared to zone A, is attributable to the overflow hazard in zone B); in zone C, where frequency, depth and duration of flooding is great enough to seriously affect cropping, long season or permanent crops are rarely found, with most of the acreage in short season crops or idle.

Cotton, rice, soybeans, corn, oats, grain sorghum and pasture represent the major open land crops upon which this project analysis is based. The project area as a whole is developing rapidly, and much of the needed farm and group drainage installation is anticipated to be done, with an associated shift in cropping patterns to higher percentages of long season crops, without improvement of existing drainage outlets. With the planned project works, considerable amounts of additional farm drainage installation and more intensive land use are anticipated, with an increased acreage of cotton on drained lands and proportionate decreases in other crops, particularly rice on soil unit 1.

Since the data for zone B includes some undrained as well as drained acreages, the cropping shown on Tables II B, III B, and IV B represents the weighted estimates for drained and undrained conditions.

YIELDS

Field crop and pasture yields are estimates of yields that are currently being attained or that can be expected to be attained by average producers, using a reasonable level of management, under future conditions, with and without drainage. All yields, in all project zones, are for average flood-free years. Within Zone B, under present, future without project, and future with project conditions, there are varying percentages of total acreage that are or would be drained. These percentages were used in computing weighted yields for Table II B, III B, and IV B for each crop.

Computations for Zone A are only for net acreages to be drained, and since none of the acreage in Zone C will be drained, weighting was unnecessary in these two zones.

Woodland yields are based upon sampling studies conducted in the area by the U. S. Forest Service. Woodland yields are based on average growth rates applicable to the species and stand size and ages found in the area. The yields represent the units of wood products and value that will be attained on the average for the next 50 years under the level of management that can be expected to prevail based on present findings in the project area. Board foot and cubic foot units of production of wood products per acre are not shown in Tables II and III due to complexity of computations. For simplicity, the yield for Table III has been consolidated into a per acre value of production discounted to present worth. Unit yields of wood products used in the consolidation are available in the working papers.

PRICES

Woodland production values, as used in Table III, are based on 1955 prices for woodland products F.O.B. mill or siding. 1955 prices are used since they appear to be realistic price projections for future conditions. The production values shown for the future without project conditions have been discounted to present worth in connection with increments in production and value due to application of high level management practices and any time lags in availability of products for harvest.

Projected field crop and livestock prices used in this report were developed jointly by the Agricultural Research Service and the agricultural Marketing Service. Projected prices have been used, based on most likely long range expectations, and estimates of cropping patterns have been influenced by the assumption that such prices will prevail. Projected prices were developed from studies of the prospective conditions of product supplies and requirements. In order to remove the effects of price support programs and in order to reflect the economy of production in competing areas, the projections assume the eventual attainment of a relatively free market for agricultural products.

In evaluating the long-run aspects of deferred land development and improvement projects, the use of projected prices makes it unnecessary to restrict the acreage of "control" crops in crop income computations.

Crop acreages shown for future conditions are not compatible with a projection of current prices into the future, however. Neither do they seem to portray attainable goals for restricted crops during the surplus disposal period in the immediate years ahead. Therefore, if current prices were to be used in projection of future project conditions or for projects where early construction is contemplated, there would appear to be little or no justification for increasing the acreage of surplus or "control" crops (cotton and rice) over current allotment acreages.

CROP PRODUCTION COSTS

Production costs for forest products are based on costs prevailing in and adjacent to the project locality during 1955. These costs are estimated to be at a reasonable level for projection to future conditions. Production costs have been discounted to present worth in the same manner as production values. Costs cover conversion of standing timber to raw wood products at mill or rail siding, including a return to management, and a cultural and crop management cost consisting of an amortized annual charge for timber stand improvement work; an allowance for management and supervision by owners, their representatives, and foresters, and forest protection.

Production costs for all field crop and livestock enterprises

were developed from a study of large and small Mississippi River bottom-land farms. Because production costs by enterprises are not the same for large as for small farms, these costs were weighted in accordance with the proportionate acreage of land in large and small farms expected to exist in the project area under future conditions. In some project areas within the same reach it will be noted that there is a difference in production cost for the same crop at the same yield level between the future without project and future with project conditions. This is because the percentage of land expected to be in large farms without the project is different from the percentage of land expected to be in large farms with the project. Production costs, as used for project evaluation purposes, include all operational costs required to attain yield levels indicated in project cost tables (such as allowances for all labor, power, machinery, and materials required to produce and market the product), all farm overhead costs necessary in farm operation (except for a charge for land), and an allowance for management expense which includes an estimated amount required for the operator's management and for any employed management personnel or services.

Land charges were omitted from the cost analysis because net returns to land were being determined for conditions with and without the project features. Overhead costs include such items as a charge for buildings, maintenance and replacement of farm machinery, interest on investment, insurance, and personal property taxes. Specified production costs are all costs incurred in production and marketing of the crop or livestock. These specified costs do not include overhead and management charges. Overhead and management costs were allocated to each enterprise in proportion to the specified costs of production expended on the enterprise. Some production costs were treated as variables with yield levels attained (most harvest costs, fertilizer, poisoning, etc.) while other costs were assumed to be fixed regardless of yield (soil preparation, cultivation, and a portion of machine-picking cost). Preharvest, harvest, overhead and management costs were computed separately to derive total crop production costs.

Production costs used for projections are approximately 96 percent of the 1955 level of costs incurred by farmers.

Crop yield - production cost relationships are not the same for summary tables (all soils) as for the individual soils tables from which the summary tables are constructed. A small portion of this difference is statistical in nature (statistical error due to rounding to commonly used units) and can be ignored. The major difference, however, is due to the computing of both yields and production costs in the summary tables where total production and total cost of each crop for all soils is divided by the total acreage of that crop. If all costs bore a direct (straight-line) relationship to yield, these differences, except for statistical error, would not occur. Because this situation does not exist, an entirely accurate production cost for a given yield in the summary tables cannot be read from the standard cost tables that were

developed. To get entirely accurate detailed costs (preharvest, harvest, overhead and management) in the summary tables that would be comparable to the costs used in the individual soil unit tables, it would be necessary to weight each of the components of total cost with the same acreage used in the individual soil unit tables.

The difference between the computed costs used in the summary tables for a given yield and the unweighted costs (standard cost tables) is not expected to exceed 10 percent on any given component of total cost - spot checks of actual data have not exceeded five percent. Therefore, unless greater accuracy is desired than that provided by summary tables, it will not be necessary to weight detailed cost data for flood damage analysis purposes if standard detailed cost tables are used in determining such costs.

In those cases where supplemental irrigation is involved (on crops other than rice which is an irrigated crop), irrigation costs are computed separately and added to standard production costs. These irrigation costs consist of preharvest and overhead charges. They have been added to standard nonirrigated production costs in proportion to acres irrigated in all tables where supplemental irrigation is involved.

NET CROP PRODUCTION RETURNS

The analysis of crop production by soil units, upon which the summary tables are based, generally indicate the gross value of production to be greater than production costs. For the future conditions without the project, however, production costs of some crops on some of the soil units are higher than gross value of the crop. A correction has been made in the summary tables to remove the effect of these negative net returns where they occur. In making the correction, the actual returns for the negative net returns was assumed to be zero. In the long-run, shifts in land use may be expected that would largely avoid the losses incurred with the cropping system shown. By indicating a net income of zero for crops having a negative net return, the net error involved is negligible, and well within the limits of error in basic information used in project area analysis. Higher yields, as expected, show larger net returns to land than lower yields for the same enterprise.

The basic principle involved in this analysis is that project justification should not be dependent upon negative values and, therefore, that the total net returns shown for future project conditions places a ceiling on project benefits. Inasmuch as this analysis assumes flood-free years, consideration has not been given to the effect of flood damage on average annual net income. Consideration of the relation of this production and income analysis to flood damage analysis can be given only after flood losses have been estimated.

LAND USE CONVERSIONS AND COSTS

Table VI shows the land use conversions that are anticipated from the several St. Francis River Basin Projects and the development of the

associated farm and group drainage systems. Table VI also contains the costs of making all woodland conversions (1955 level). Moderate amounts of conversion of woodland to general cultivated crops (dry land) and irrigated crop (rice) and pasture use can be expected with provision of major drainage outlets and associated farm and group drainage systems. It is estimated that these conversions will all be profitable enough to be desirable from the standpoint of the owner and operator. If the operator secures the inducement of a reasonable income over and above his loss of present woodland value and his land use conversion and drainage costs, he will probably go ahead with land conversions rather than wait for a long period of years for deferred woodland income.

Items of conversion cost include all expense of putting woodland from its present state into condition to produce a crop or livestock enterprise, with only normal production costs remaining to be incurred.

This statement excepts considerable acreages of irrigation which will also be expected with drainage installation. Costs of installation and maintenance of irrigation systems are included in costs of production. Also included in costs of production are costs of establishing and maintaining pasture on converted woodlands.

All capital costs of land conversions have been amortized at 5 percent for a period of 50 years.

FARM DRAINAGE SYSTEMS AND COSTS

Table VII contains estimates of amounts and costs of farm drainage systems that can be expected after satisfactory major outlets and connecting group drainage systems are developed. These estimates anticipate that approximately 80 percent of the wet open land will be drained and used for crop production. Approximately 10 percent of the open land is used for farmsteads, farm roads, waste, etc. and hence is not available for crop production. An additional area, estimated at 10 percent of the total wet open land, will not be improved because of a lack of farmer participation.

Costs, computed at 1955 levels, include the installation (construction, engineering and contingency) costs required for farm drainage systems for satisfactorily rapid removal of surface water accumulations that are likely to occur for the various conditions of rainfall and run-off involved. Requirements vary by soil mapping units and by land use. Costs include all ditching and appurtenant structural needs for systems to serve an average of one square mile. Estimates are based on standard design data for conditions involved.

Farm drainage system capital costs have been amortized for a useful life period of 15 years at 5 percent. Field experience in farm drainage work indicates that a 15 year useful life period is realistic in view of the relatively stable land use and agriculture of the area. Maintenance costs, varying with the soil mapping unit and land use, have been added to the amortized annual equivalent of installation cost to derive the

annual cost of farm drainage systems.

All farm drainage costs have been discounted on Table IX at 5 percent to account for an estimated lag of either 10 or 20 years to full installation, maintenance and benefit accrual. The lag period was varied by reaches or projects according to the amount of group drainage system installation required in the particular reaches or projects involved. Most of the area requiring farm drainage can be drained without further improvements in the major outlets; only relatively minor areas will have to wait on farm drainage until further outlet improvements and group drainage systems are installed.

GROUP DRAINAGE SYSTEMS AND COSTS

The area served by the several St. Francis River Tributaries projects is quite large, and large amounts of group drainage system installations are necessary to serve as intermediate drainage to connect farm systems with the major outlets. However, most of this installation is already on the ground or anticipated to be installed without impetus of the proposed projects. Only about 315 miles of additional group drainage ditches and appurtenant structures are anticipated to be required to serve the farm drainage systems that are expected to be installed.

Table VIII itemizes the costs required to install and maintain the group drainage ditches and appurtenant structures. Installation costs have been amortized for a useful life period of 30 years at $3\frac{1}{2}$ percent. Field experience in group drainage work in this and similar areas indicates that a 30 year useful life period is realistic in view of the relatively stable land use and agriculture of the areas involved. Maintenance costs have been added to this amount to derive the total annual cost of group drainage systems.

All group drainage costs have been discounted on Table IX at $3\frac{1}{2}$ percent to account for an estimated 10 year lag to full installation, maintenance and benefit accrual.

BENEFITS AND ASSOCIATED COSTS

Table IX summarizes net annual returns from Tables III and IV for Zones A and B, annual costs of making land conversions (from Table VI), and establishing and maintaining farm and group drainage systems (Tables VII and VIII).

Returns and gross benefit, and all associated cost items, have been discounted in Column 3, Table IX, to account for an estimated lag and buildup period to full installation and maintenance requirements, and benefit accrual.

SUMMARY

The St. Francis River and Tributaries (Arkansas) Project Area is a moderately well developed agricultural area. Most of the soils of the

area are inherently highly productive when adequate farm drainage and good management are applied. Although woodlands constitute only a small percentage of the area, most of the woodlands are anticipated to be converted to cropland in the reasonably near future without impetus of the proposed projects. Major drainage outlets in the area are fair to moderately good, and much farm and group drainage installation can be anticipated in the area without further improvement of the major outlets. However, the project installations, by improving outlets and alleviating flood hazards as well as the psychological effect of major construction work in the various areas, are anticipated to precipitate considerable amounts of farm and group drainage installation. The present group drainage system is fair, with considerable renovation of old ditches being done in various sub-project areas throughout the project area. The major outlet, group ditches and farm systems need to be integral parts of a single system for removal of surface water accumulations; this is a major function of the proposed facility.

Yields for average flood-free years have been used throughout this report. The Corps of Engineers, therefore, may need to modify the future without project values to account for flood damage. They may also need to modify future with project values to account for less than complete flood protection under project conditions.

* * * * *

ST. FRANCIS
BASIN SUMMARY BY REACHES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Reach	Acres	Future Without Project (Value of Production in Dollars)			Future With Project (Value of Production in Dollars)			Difference in Net Production
		Gross	Cost	Net	Gross	Cost	Net	
Blackfish Bayou								
Reach 1	28,858	1,872,664	1,528,669	344,823 1/	3,042,917	2,538,759	504,158	159,335 1/
Reach 2	7,600	568,099	466,295	102,035 1/	838,902	697,973	140,929	38,894 1/
Reach 3	6,452	468,944	381,981	87,269 1/	731,801	608,197	123,604	36,335 1/
Fifteen Mile Bayou	27,068	1,903,842	1,598,752	303,191 1/	3,082,788	2,569,048	513,740	205,549 1/
Tyroneza River								
Reach 1	4,156	351,024	281,900	69,124	468,242	385,425	82,817	13,693
Reach 2	26,150	1,935,226	1,546,961	388,774 1/	2,864,971	2,383,120	481,851	93,077 1/
Reach 3	20,532	1,505,123	1,212,813	293,781 1/	1,952,943	1,552,954	399,989	106,208 1/
Big Creek								
Reach 1	24,828	1,771,876	1,429,668	343,283 1/	2,768,364	2,280,613	487,751	144,468 1/
Reach 2	9,241	635,126	508,373	126,930 1/	1,028,623	851,164	177,459	50,529 1/
Ditch # 40	19,312	1,284,122	1,058,516	227,343 1/	2,030,524	1,627,633	402,891	175,548 1/
Ditch # 1								
Reach 1	8,782	638,935	517,470	122,038 1/	829,274	670,595	158,679	36,641 1/
Reach 2	1,258	92,814	72,759	20,055	127,276	98,938	28,338	8,283
Ditch # 21	15,278	1,233,982	1,013,490	220,912 1/	1,465,914	1,207,345	258,569	37,657 1/
Riverdale Culvert								
Relief Ditch	4,109	332,734	269,523	63,211	409,587	328,673	80,914	17,703
Buffalo Ditch								
Reach 1	26,916	2,429,172	1,902,321	526,851	2,809,015	2,200,996	608,019	81,168
Reach 2	18,680	1,462,207	1,168,177	294,030	2,019,884	1,589,447	430,437	136,407
Reach 3	20,550	1,168,914	923,919	244,995	1,804,395	1,360,400	443,995	199,000

1/ Adjusted to eliminate negative net return

(Continued)

(Continued from page 14)

ST. FRANCIS
BASIN SUMMARY BY REACHES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Reach	Acres	Future Without Project (Value of Production in Dollars)	Cost	Net	Future With Project (Value of Production in Dollars)	Cost	Net	Difference in Net Production
Honey Cypress Ditch	9,408	472,180:	383,749:	88,431	825,988:	620,871:	205,117:	116,686
Cockle Burr Slough:								
Ditch - Reach 1	368	22,171:	14,927:	7,244	27,430:	19,526:	7,954:	710
Reach 2	22,743	1,379,647:	1,115,905:	263,742	2,201,856:	1,716,984:	484,872:	221,130
Tributaries of								
Cockle Burr Inlet:	8,737	632,753:	484,125:	148,628	844,227:	647,634:	196,593:	47,965
Ditch # 10	88,679	6,588,356:	5,228,906:	1,360,303 1/2	9,878,244:	7,746,167:	2,132,077:	771,774 1/2
Ditch # 123								
Reach 1	10,751	1,099,567:	874,867:	224,700	1,400,341:	1,094,400:	305,941:	81,241
Reach 2	16,021	1,260,601:	1,008,502:	252,573 1/2	1,868,545:	1,469,470:	399,075:	146,502 1/2
Big Bay Ditch # 1	16,671	1,104,796:	856,484:	248,312	1,668,423:	1,282,673:	385,750:	137,438
Eight Mile Creek								
Ditch - Reach 1	9,183	606,695:	456,196:	150,499	829,608:	623,217:	206,391:	55,892
Reach 2	1,576	109,985:	78,577:	31,408	144,396:	104,648:	39,748:	8,340
Locust Creek Ditch:	18,374	1,059,208:	818,321:	240,887	1,587,751:	1,206,849:	380,902:	140,015
TOTAL	472,281 2/3	33,990,763:	27,202,146:	6,800,372	49,552,279:	39,483,719:	10,068,560:	3,268,188

1/ Adjusted to eliminate negative net return

2/ Total area reduced by 9,187 acres water, 7,051 acres urban, 4,214 acres dedicated woodland, 57,395 acres woodland not anticipated to be cleared, and 702,992 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River

Project: Blackfish Bayou

Reach: 1

State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping Unit	: Open (Acres)	: Wooded (Acres)	: Urban (Acres)	: Water (Acres)	: Total (Acres)
Zone A	1	:12,540	: 3,260	-	-	: 15,800
	1SU	: 205	-	-	-	: 205
	2	: 2,259	: 116	-	-	: 2,375
	2SU	:15,073	: 2,907	-	-	: 17,980
	11	: 427	: 47	-	-	: 474
	11SU	: 158	-	-	-	: 158
Subtotal - all soils		:30,662	: 6,330	-	-	: 36,992
Urban		-	-	-	-	-
Water		-	-	-	67	67
Total - Zone A		:30,662	: 6,330	-	67	: 37,059
Zone B	1	: 4,617	: 6,328	-	-	: 10,945
	2	: 564	-	-	-	: 564
	2SU	: 5,826	: 5,024	-	-	: 10,850
Subtotal - all soils		:11,007	: 11,352	-	-	: 22,359
Urban		-	-	-	-	-
Water		-	-	-	148	148
Total - Zone B		:11,007	: 11,352	-	148	: 22,507
Zone C	1	: 376	: 100	-	-	: 476
	1SU	: 94	-	-	-	: 94
	2SU	: 644	: 151	-	-	: 795
	11SU	: 65	-	-	-	: 65
Subtotal - all soils		: 1,179	: 251	-	-	: 1,430
Urban		-	-	-	-	-
Water		-	-	-	166	166
Total - Zone C		: 1,179	: 251	-	166	: 1,596
GRAND TOTAL - Reach 1		:42,848	: 17,933	-	381	: 61,162

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil:	Land use and crop	2/	Production		
Unit:	distribution	Acres	Unit	Per Acre	Total
All	Open land	17,018			
	Crops	15,317		3/	
	Cotton	5,525	Lbs. Lint	311	1,717,830
	Cottonseed	(5,525)	Ton	.2798	1,546.05
	Rice	765	Cwt.	30	22,950
	Soybeans	3,128	Bu.	19	60,935
	Oats (Grain)	2,706	Bu.	23	63,279
	Grain Sorghum	687	Bu.	20	13,911
	Perm. Pasture	1,403	Lbs. Beef	145	203,435
	Idle	1,103			
	Other 1/	1,701			
	Woodland	6,283	Acres		
	TOTAL	23,301 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone A reduced by 67 acres water, 632 acres not requiring drainage, and 13,059 acres already drained.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acreage	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit	distribution	Acreage	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	5,095								
	Crops	4,586								
	Cotton	2,293	Lbs. lint	364 ^{3/4}	833,870	.25	208,467	97.92 ^{1/4}	224,536	31,212 ^{5/6}
	Cottonseed	(2,293)	Ton	.3273	750.49	63.00	47,281			32,040 ^{5/6}
	Rice	1,172	Cwt.	30	35,160	3.75	131,849	99.96	117,153	14,696
	Soybeans	446	Bu.	25	10,997	2.30	25,293	29.34	13,088	12,205
	Oats (Grain)	212	Bu.	25	5,304	.90	4,774	17.07	3,618	1,156
	Grain Sorghum	112	Bu.	17	1,904	1.53	2,913	17.18	1,924	989
	Perm. Pasture	74	Lbs. Beef	198	14,680	.2005	2,943	28.26	2,091	852
	Idle	277								
	Other ^{1/}	509								
	Woodland	1,217	Acreage			4.36	5,306	2.35	2,860	2,446
	TOTAL	6,312 ^{7/8}					428,826		365,270	63,556 ^{5/6}
										64,384 ^{5/6}

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Includes calculated negative net return
- 6/ Adjusted to eliminate negative net return
- 7/ Total area Zone A reduced by 67 acres water, 5,066 acres woodland not anticipated to be cleared, and 25,614 acres already drained, not requiring drainage.

Basin: St. Francis River
Project: Blackfish Bayou
Reach: 1
State: Arkansas

SUMMARY - TABLE IV A

COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION

PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT

(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acre	Unit	Production Per Acre	Total	Value of production Per Unit	Cost of production Per Acre	Total	Return	Net
ALL	Open land	6,312								
	Crops	5,681								
	Cotton	4,247	Lbs. lint	3/ 490	2,081,200	.25	520,300	127.89	543,154	95,150
	Cottonseed	(4,247)	Ton	4410	1,873.08	63.00	118,004			
	Soybeans	853	Bu.	25	21,641	2.30	49,774	30.01	25,599	24,175
	Oats (Grain)	302	Bu.	42	12,784	.90	11,505	25.76	7,779	3,726
	Perm. Pasture	160	Lbs. Beef	294	47,040	.2005	9,432	40.42	6,467	2,965
	Idle	119								
	Other 1/	631								
	Woodland	-	Acre							
	TOTAL	6,312 5/					709,015		582,999	126,016

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 67 acres water, 5,066 acres woodland not anticipated to be cleared, and 25,614 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS.
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil:	Land use and crop	2/	Production		
Unit:	distribution	Acres	Unit	Per Acre	Total
All	: Open land	: 11,007	:	:	:
	: Crops	: 9,906	:	:	3/ :
	: Cotton	: 3,397	: Lbs. Lint	: 371	: 1,260,095
	: Cottonseed	: (3,397)	: Ton	: 3338	: 1,134,09
	: Soybeans	: 2,083	: Bu.	: 21	: 43,691
	: Oats (Grain)	: 1,777	: Bu.	: 29	: 51,278
	: Grain Sorghum	: 402	: Bu.	: 24	: 9,648
	: Perm. Pasture	: 553	: Lbs. Beef	: 186	: 102,660
	: Idle	: 1,694	:	:	:
	: Other 1/	: 1,101	:	:	:
	: Woodland	: 11,352	: Acres	:	:
	: TOTAL	: 22,359 4/	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone B reduced by 148 acres water.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
ALL	Open land	14,663								
	Crops	13,197								
	Cotton	6,599	Lbs. lint	464 ^{3/}	3,061,225	.25	765,306	121.52	801,914	136,964
	Cottonseed	(6,599)	Ton	4175	2,755.10	63.00	173,572			
	Rice	2,053	Cwt.	34	69,802	3.75	261,757	108.92	223,613	38,144
	Soybeans	1,466	Bu.	25	36,946	2.30	84,976	29.96	43,926	41,050
	Oats (Grain)	836	Bu.	36	30,422	.90	27,380	22.55	18,849	8,531
	Grain Sorghum	777	Bu.	25	19,296	1.53	29,523	22.03	17,115	12,408
	Idle	1,466								
	Other <u>1/</u>	1,466								
	Woodland	6,704	Acres			11.31	75,822	6.52	43,710	32,112
	TOTAL	21,367 <u>5/</u>					1,418,336		1,149,127	269,209

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 148 acres water and 992 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Production Unit	Per Acre	Total	Value of production Per Unit	Cost of production Per Acre	Return	Net	
ALL	Open land	21,357								
	Crops	19,230								
	Cotton	10,885	Lbs. lint	505 ^{3/}	5,500,195	25	1,375,049	135.18	1,471,472	215,438
	Cottonseed	(10,885)	Ton	4548	4,950,17	63.00	311,861			
	Rice	3,238	Cwt.	34	110,092	3.75	412,845	108.92	352,683	60,162
	Soybeans	2,123	Bu.	25	53,894	2.30	123,956	30.07	63,834	60,122
	Oats (Grain)	1,261	Bu.	41	52,243	.90	47,019	25.26	31,851	15,168
	Grain Sorghum	962	Bu.	26	24,621	1.53	37,670	22.50	21,648	16,022
	Idle	761								
	Other	2,137								
	Woodland		Acres							
	TOTAL	21,367 ^{5/}					2,308,400		1,941,488	366,912

- 1/ Farm roads, farmsteads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 148 acres water and 992 acres woodland not anticipated to be cleared.

Basin: St. Francis River

Project: Blackfish Bayou

Reach: 1

State: Arkansas

SUMMARY - TABLE II C
ZONE OF NO PROJECT BENEFIT
COMPUTATION OF AGRICULTURAL PRODUCTION
EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop		Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	1,179			
	Crops	1,061		2/	
	Corn	107	Bu.	29	3,076
	Soybeans	318	Bu.	21	6,553
	Grain Sorghum	106	Bu.	20	2,114
	Idle	530			
	Other 1/	118			
	Woodland	251	Acres		
	TOTAL	1,430 3/			

1/ Farm roads, waste and non-agricultural

2/ Calculated from Columns 3 and 6; rounded to nearest unit

3/ Total area Zone C reduced by 166 acres watered area.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III C 2
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop		Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit: distribution				Per Acre		Per Unit		Per Acre		
All : Open land		1,179								
: Crops		1,061								
: Corn		107	Bu.	32	3,439	1.45	4,987	29.36	3,142	1,845
: Soybeans		318	Bu.	23	7,253	2.30	16,681	27.90	8,873	7,808
: Grain Sorghum		106	Bu.	24	2,506	1.53	3,834	21.29	2,257	1,577
: Idle		530								
: Other <u>2/</u>		118								
: Woodland		-	Acres							
: TOTAL		1,179 <u>5/</u>					25,502		14,272	11,230

1/ Data same for "future without" and "future with project"; no Table IV C required.
 2/ Farm roads, waste and non-agricultural.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone C reduced by 166 acres water and 251 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
:	:	:	:	:	:	:	:	:
:	:	Future Without Project			:	:	:	Difference
Soil	:	(Production in Dollars)			:	:	:	in Net
Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Production

ZONE A - (not subject to flooding)

1	3,241	175,942	158,564	18,206 <u>1/</u>	352,077	290,052	62,025	43,819 <u>1/</u>
2	389	35,900	30,199	5,701	46,605	38,456	8,149	2,448
2SU	2,682	216,984	176,507	40,477	310,333	254,491	55,842	15,365
Subtotal	6,312 <u>2/</u>	428,826	365,270	64,384	709,015	582,999	126,016	61,632

ZONES B & C (subject to flooding)

1	10,750	557,324	452,744	104,580	1,104,922	955,427	149,495	44,915
2SU	11,796	886,514	710,655	175,859	1,228,980	1,000,333	228,647	52,788
Subtotal	22,546 <u>3/</u>	1,443,838	1,163,399	280,439	2,333,902	1,955,760	378,142	97,703
TOTAL	28,858	1,872,664	1,528,669	344,823	3,042,917	2,538,759	504,158	159,335

- 1/ Adjusted to eliminate negative net return
- 2/ Total area Zone A reduced by 67 acres water, 5,066 acres woodland not anticipated to be cleared, and 25,614 acres already drained, not requiring or not anticipated to be drained.
- 3/ Total area Zones B & C reduced by 314 acres water and 1,243 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	10	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	6,636	398,160	66,360	464,520
W to IC	1,185	71,100	11,850	82,950
W to P	100	6,000	xx	6,000
P to GC	14	xx	140	140
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	475,260	78,350	553,610
Annual amortized value <u>2/</u>	xx	xx	xx	30,327
Total annual cost of conversions	xx	xx	xx	30,327

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
A	1 - General crops	2,829	48,950	4,716	5,648	10,364
	1 - Pasture	88	819	79	19	98
	2 - General crops	350	5,251	506	606	1,112
	2SU - General crops	2,342	35,135	3,385	4,054	7,439
	2SU - Pasture	72	671	65	15	80
B	Subtotal	5,681 <u>1/</u>	90,826	8,751	10,342	19,093
	1 - General crops	2,668	46,164	4,447	5,327	9,774
	1 - Rice	1,436	12,396	1,194	477	1,671
	2SU - General crops	3,789	56,842	5,476	6,559	12,035
	Subtotal	7,893 <u>1/</u>	115,402	11,117	12,363	23,480
	TOTAL	13,574 <u>1/</u>	206,228	19,868	22,705	42,573

- 1/ Does not include 10 percent "other" land.
2/ Includes engineering and contingency.
3/ Amortized at 5 percent over 15 years.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	141,200	0.20	28,240
Right-of-way easements	Acres	61	30.00	1,830
Crossings	Each	10	300.00	3,000
Swinging water gaps	Each	20	40.00	800
Pipe drop structures	Each	5	200.00	1,000
Flap gates	Each	6	100.00	600
Vegetative plantings	Acres	20	8.00	160
Total construction cost	xx	xx	xx	35,630
Engineering cost	xx	xx	xx	3,563
Contingencies and legal	xx	xx	xx	3,563
Total installation cost				42,756
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				2,325
Annual maintenance cost				1,781
Annual loss of production - right-of-way <u>2/</u>				215
Total annual cost of required group facilities				4,321

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 18 acres @ \$11.95 per acre.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 1
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	504,158	xx
2. Net return without project	344,823	xx
3. Gross benefit to project	159,335	98,982 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	19,868	xx
b. Maintenance cost	22,705	xx
c. Total	42,573	26,447
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	2,325	xx
b. Maintenance cost <u>1/</u>	1,996	xx
c. Total	4,321	3,588
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	30,327	xx
b. Maintenance cost	-	xx
c. Total	30,327	18,840

- 1/ Includes loss of production, right-of-way
2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.
3/ Discounted at 3½ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin:	St. Francis River
Project:	Blackfish Bayou
Reach:	2
State:	Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	3,570	484	-	-	4,054
	2	821	21	-	-	842
	2SU	9,380	1,417	-	-	10,797
	4	42	-	-	-	42
	11	258	-	-	-	258
Subtotal - all soils		14,071	1,922	-	-	15,993
Urban		-	-	47	-	47
Water		-	-	-	26	26
Total - Zone A:		14,071	1,922	47	26	16,066
Zone B	1	685	1,274	-	-	1,959
	2SU	2,118	941	-	-	3,059
Subtotal - all soils		2,803	2,215	-	-	5,018
Urban		-	-	-	-	-
Water		-	-	-	102	102
Total - Zone B:		2,803	2,215	-	102	5,120
GRAND TOTAL- Reach 2		16,874	4,137	47	128	21,186

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil :	Land use and crop	:	<u>2/</u>	:		:	Production	:	
Unit:	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
All :	Open land	:	9,548	:		:		:	
	Crops	:	8,594	:		:	<u>3/</u>	:	
	Cotton	:	3,224	:	Lbs.Lint	:	330	:	1,063,825
	Cottonseed	:	(3,224)	:	Ton	:	.2970	:	957.44
	Rice	:	314	:	Cwt.	:	30	:	9,420
	Soybeans	:	1,712	:	Bu.	:	21	:	35,965
	Oats (Grain)	:	1,520	:	Bu.	:	25	:	38,414
	Grain Sorghum	:	396	:	Bu.	:	21	:	8,366
	Perm. Pasture	:	866	:	Lbs.Beef	:	145	:	125,570
	Idle	:	562	:		:		:	
	Other <u>1/</u>	:	954	:		:		:	
	Woodland	:	1,922	:	Acres	:		:	
	TOTAL	:	11,470 <u>4/</u>	:		:		:	

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area zone A reduced by 47 acres urban, 26 acres water,
 4,523 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop :	Acres	Unit	Production	Value of production	Cost of production	Net				
Unit : distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All : Open land	2,363									
: Crops	2,127		3/							
: Cotton	1,268	Lbs. Lint	388	491,685	.25	122,921	102.82	130,373	20,427	5/
: Cottonseed	(1,268)	Ton	.3490	442.52		27,879			20,658	6/
: Rice	338	Cwt.	30	10,140	3.75	38,024	99.96	33,786	4,238	
: Soybeans	248	Bu.	26	6,512	2.30	14,978	30.59	7,587	7,391	
: Oats (Grain)	98	Bu.	28	2,768	.90	2,510	18.63	1,826	684	
: Grain Sorghum	31	Bu.	17	527	1.53	806	17.18	533	273	
: Perm. Pasture	47	Lbs. Beef	200	9,390	.2005	1,883	28.49	1,339	544	
: Idle	97									
: Other	236									
: Woodland	339	Acres			4.36	1,478	2.35	796	682	
: TOTAL	2,702					210,479		176,240	34,239	5/
									34,470	6/

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Includes calculated negative net return
 6/ Adjusted to eliminate negative net return
 7/ Total area zone A reduced by 47 acres urban, 26 acres water, 1,583 acres woodland not anticipated to be cleared, and 11,708 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution						Per Unit	Per Acre	Return		
All : Open land	2,702									
: Crops	2,432									
: Cotton	1,598	Lbs. Lint	499	3/	796,650	.25	199,162	130.24	208,117	36,215
: Cottonseed	(1,598)	Ton	4487		716.98	63.00	45,170			
: Rice	244	Cwt.	35		8,540	3.75	32,025	111.17	27,125	4,900
: Soybeans	321	Bu.	27		8,602	2.30	19,785	31.06	9,971	9,814
: Oats (Grain)	113	Bu.	43		4,869	.90	4,382	26.21	2,962	1,420
: Grain Sorghum	36	Bu.	24		864	1.53	1,322	21.51	774	548
: Perm. Pasture	46	Lbs. Beef	305		14,030	.2006	2,813	41.76	1,921	892
: Idle	74									
: Other	270									
: <u>Woodland</u>	<u>1/</u>	Acres								
: TOTAL	2,702 5/						304,659		250,870	53,789

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 47 acres urban, 26 acres water, 1,583 acres woodland not anticipated to be cleared, and 11,708 acres not requiring drainage, not anticipated to be drained or already drained.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil:	Land use and crop	2/	Production		
Unit:	distribution	Acres	Unit	Per Acre	Total
All:	Open land	2,803			
:	Crops	2,523		3/	
:	Cotton	935	Lbs. Lint	378	353,815
:	Cottonseed	(935)	Ton	3406	318.44
:	Soybeans	478	Bu.	23	10,912
:	Oats (Grain)	422	Bu.	31	12,960
:	Grain Sorghum	134	Bu.	24	3,216
:	Perm. Pasture	145	Lbs. Beef	176	25,475
:	Idle	409			
:	Other 1/	280			
:	Woodland	2,215	Acres		
:	TOTAL	5,018	4/		

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone B reduced by 102 acres water.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit	distribution			Per Acre		Per Unit		Per Acre		
All	Open land	3,514								
:	Crops	3,162		3/				4/		
:	Cotton	1,781	Lbs. Lint	482	858,985	.25	214,746	126.19	224,736	38,715
:	Cottonseed	(1,781)	Ton	4341	773.09	63.00	48,705			
:	Rice	336	Cwt.	34	11,424	3.75	42,840	108.92	36,597	6,243
:	Soybeans	361	Bu.	26	9,532	2.30	21,924	30.80	11,119	10,805
:	Oats (Grain)	187	Bu.	40	7,425	.90	6,682	24.28	4,540	2,142
:	Grain Sorghum	177	Bu.	26	4,621	1.53	7,070	22.82	4,039	3,031
:	Idle	320								
:	Other	352								
:	Woodland	1,384	Acres							
:	TOTAL	4,898 5/				11.31	15,653	6.52	9,024	6,629

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 102 acres watered and 120 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution						Per Unit	Total	Per Acre	Total	Return
ALL : Open land	4,898									
: Crops	4,408									
: Cotton	2,635	Lbs. Lint	506	1,334,610		.25	333,652	134.75	355,076	54,248
: Cottonseed	(2,635)	Ton	4558	1,201,15		63.00	75,672			
: Rice	589	Cwt.	34	20,026		3.75	75,097	108.92	64,154	10,943
: Soybeans	495	Bu.	26	12,874		2.30	29,610	30.48	15,117	14,493
: Oats (Grain)	302	Bu.	42	12,700		.90	11,430	25.62	7,737	3,693
: Grain Sorghum	220	Bu.	26	5,740		1.53	8,782	22.81	5,019	3,763
: Idle	166									
: Other	490									
: Woodland		Acres								
: TOTAL	4,898						534,243		447,103	87,140

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 102 acres water and 120 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			
ZONE A - (not subject to flooding)								
1	810	48,911	44,230	4,912	83,029	68,654	14,375	9,463
2	183	16,873	14,201	2,672	24,010	20,169	3,841	1,169
2SU	1,709	144,695	117,809	26,886	197,620	162,047	35,573	8,687
Subtotal:	2,702	210,479	176,240	34,470	304,659	250,870	53,789	19,319
ZONE B - (subject to flooding)								
1	1,870	95,791	77,335	18,456	200,862	173,933	26,929	8,473
2SU	3,028	261,829	212,720	49,109	333,381	273,170	60,211	11,102
Subtotal:	4,898	357,620	290,055	67,565	534,243	447,103	87,140	19,575
TOTAL:	7,600	568,099	466,295	102,035	838,902	697,973	140,929	38,894
Adjusted to eliminate negative net return								
2/ Total area Zone A reduced by 47 acres urban, 26 acres water, 1,583 acres woodland not anticipated to be cleared and 11,708 acres already drained, not anticipated to be drained or not requiring drainage,								
3/ Total area Zone B reduced by 102 acres water and 120 acres woodland not anticipated to be cleared.								

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion	Total	Cost of	Cost of	Total
1/	Amount	Clearing	Smoothing	Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	12.50	xx
W to IC	xx	60	12.50	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	12.50	xx
P to IC	xx	xx	12.50	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	1,464	87,840	18,300	106,140
W to IC	253	15,180	3,162	18,342
W to P	6	360	xx	360
P to GC	5	xx	62	62
P to IC	2	xx	25	25
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	103,380	21,549	124,929
Annual amortized value 2/	xx	xx	xx	6,844
Total annual cost of conversions	xx	xx	xx	6,844

1/ W-woodland; GC-general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 2
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation	Annual Equivalent Instl. Cost	Annual Maintenance Cost	Total Annual Cost
A	1 - General crops	510	8,825	850	1,018	1,868
	1 - Rice	219	1,890	182	73	255
	2 - General crops	140	2,101	202	242	444
	2 - Rice	25	216	21	8	29
	2SU - General crops	1,492	22,384	2,156	2,583	4,739
	2SU - Pasture	46	428	41	10	51
	Subtotal	2,432	35,844	3,452	3,934	7,386
B	1 - General crops	462	7,994	770	922	1,692
	1 - Rice	249	2,149	207	83	290
	2SU - General crops	712	10,681	1,029	1,232	2,261
	Subtotal	1,423	20,824	2,006	2,237	4,243
	TOTAL	3,855	56,668	5,458	6,171	11,629

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency.
 3/ Amortized over 15 years at 5 percent.

Basin:	St. Francis River
Project:	Blackfish Bayou
Reach:	2
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost Dollars	Total Cost Dollars
Excavation <u>1/</u>				
Shaping or spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	24,600	0.20	4,920
Right-of-way easements	Acres	9	30.00	270
Crossings	Each	3	300.00	900
Swinging water gaps	Each	2	40.00	80
Pipe drop structures	Each	1	200.00	200
Flap gates	Each	1	100.00	100
Vegetative plantings	Acres	3	8.00	24
Total construction cost	xx	xx	xx	6,494
Engineering cost	xx	xx	xx	649
Contingencies and legal	xx	xx	xx	649
Total installation cost				7,792
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				424
Annual maintenance cost				32
Annual loss of production - right-of-way <u>2/</u>				54
Total annual cost of required group facilities				510

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 4 acres @ \$13.43 per acre.

Basin:	St. Francis River
Project:	Blackfish Bayou
Reach:	2
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	140,929	xx
2. Net return without project	102,035	xx
3. Gross benefit to project	38,894	24,162 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	5,458	xx
b. Maintenance cost	6,171	xx
c. Total	11,629	7,224
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	424	xx
b. Maintenance cost <u>1/</u>	86	xx
c. Total	510	423
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	6,844	xx
b. Maintenance cost	-	xx
c. Total	6,844	4,252

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	5,773	1,569	-	-	7,342
	2	74	-	-	-	74
	2SU	5,209	521	-	-	5,730
	4	3,839	53	-	-	3,892
	4SU	943	26	-	-	969
	11	590	-	-	-	590
	11SU	5	-	-	-	5
Subtotal - all soils		16,433	2,169	-	-	18,602
Urban		-	-	111	-	111
Water		-	-	-	15	15
Total Zone A		16,433	2,169	111	15	18,728
Zone B	1	218	1,887	-	-	2,105
	2SU	1,357	9	-	-	1,366
	4SU	268	107	-	-	375
Subtotal - all soils		1,843	2,003	-	-	3,846
Urban		-	-	-	-	-
Water		-	-	-	38	38
Total - Zone B		1,843	2,003	-	38	3,884
GRAND TOTAL - Reach 3		18,276	4,172	111	53	22,612

Basin: St. Francis River
 Project: Blackfish Bayou.
 Reach: 3
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop	2/	Production		
Unit :	distribution	Acres	Unit	Per Acre	Total
All :	Open land	11,518			
	Crops	10,367		3/	
	Cotton	3,954	:Lbs.Lint:	346	1,369,575
	Cottonseed	(3,954)	: Ton	.3117	1,232.61
	Corn	83	: Bu.	44	3,619
	Rice	330	: Cwt.	30	9,900
	Soybeans	2,282	: Bu.	20	46,556
	Oats (Grain)	2,207	: Bu.	25	55,326
	Oats (Sup.Past.)	(492)	:Lbs.Beef:	71	35,120
	Grain Sorghum	301	: Bu.	19	5,642
	Perm. Pasture	686	:Lbs.Beef:	151	103,355
	Idle	524			
	Other 1/	1,151			
	Woodland	2,169	: Acres		
	TOTAL	13,687 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone A reduced by 111 acres urban, 15 acres water,
 and 4,915 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
ALL	Open land	2,825								
	Crops	2,542								
	Cotton	1,415	lbs. lint	397 ^{3/}	561,450	.25	140,362	104.99 ^{4/}	148,563	23,633 ^{5/}
	Cottonseed	(1,415)	Ton	3571	505.31	63.00	31,834			23,939 ^{6/}
	Rice	589	Cwt.	30	17,670	3.75	66,262	99.96	58,876	7,386
	Soybeans	220	Bu.	25	5,514	2.30	12,682	29.71	6,536	6,146
	Oats (Grain)	127	Bu.	28	3,510	.90	3,160	18.28	2,322	838
	Grain Sorghum	52	Bu.	17	884	1.53	1,353	17.18	893	460
	Idle	139								
	Other ^{1/}	283								
	Woodland	173	Acres			4.36	754	2.35	406	348
	TOTAL	2,998 ^{7/}					256,407		217,596	38,811 ^{5/}
										39,117 ^{6/}

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Includes calculated negative net return
- 6/ Adjusted to eliminate negative net return.
- 7/ Total area Zone A reduced by 111 acres urban, 15 acres water, 1,996 acres woodland not anticipated to be cleared, and 13,608 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	2/	Unit	Production	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
Unit: distribution				Per Acre		Dollars	Dollars	Dollars	Dollars	Dollars
ALL : Open land	2,998									
: Crops	2,698									
: Cotton	1,774			3/						
: Cottonseed	(1,774)			568	1,006,795	25	251,698	149.50	265,206	43,577
: Rice	403			5108	906.11	63.00	57,085			
: Soybeans	231			35	14,105	3.75	52,894	111.17	44,802	8,092
: Oats (Grain)	135			27	6,208	2.30	14,278	31.17	7,201	7,077
: Grain Sorghum	58			43	5,845	.90	5,261	26.35	3,557	1,704
: Idle	97			24	1,392	1.53	2,130	21.52	1,248	882
: Other 1/	300									
: Woodland	-									
: TOTAL	2,998 5/						383,346		322,014	61,332

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone A reduced by 111 acres urban, 15 acres water, 1,996 acres woodland not anticipated to be cleared, and 13,608 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River

Project: Blackfish Bayou

Reach: 3

State: Arkansas

SUMMARY - TABLE II B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS

COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil:	Land use and crop	:	<u>2/</u>	:		:	Production	:	
Unit:	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:		:		:		:		:	
All :	Open land	:	1,843	:		:		:	
:	Crops	:	1,659	:		:		:	
:	Cotton	:	597	:	Lbs.Lint:	:	369	:	220,220
:	Cottonseed	:	(597)	:	Ton	:	.3320	:	198.19
:	Corn	:	12	:	Bu.	:	12	:	144
:	Soybeans	:	201	:	Bu.	:	22	:	4,420
:	Oats (Grain)	:	233	:	Bu.	:	29	:	6,768
:	Oats (Sup.Past.)	:	(190)	:	Lbs.Beef:	:	80	:	15,200
:	Grain Sorghum	:	59	:	Bu.	:	24	:	1,416
:	Perm. Pasture	:	317	:	Lbs.Beef:	:	164	:	52,105
:	Idle	:	240	:		:		:	
:	Other <u>1/</u>	:	184	:		:		:	
:	Woodland	:	2,003	:	Acres	:		:	
:	TOTAL	:	3,846 <u>4/</u>	:		:		:	
:		:		:		:		:	

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone B reduced by 38 acres water

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre: Total	Value of production	Cost of production	Net Return	Per Acre: Total	Per Acre: Total	Per Acre: Total
Unit: distribution					Per Unit	Total	Per Acre: Total	Per Acre: Total	Per Acre: Total	Per Acre: Total
A11 : Open land	2,243									
: Crops	2,019									
: Cotton	849	Lbs. lint	3/	476	25	100,934	124.25	105,491	18,334	
: Cottonseed	(849)	Ton		4280	63.00	22,891				
: Rice	268	Cwt.		33	3.75	33,165	106.67	28,588	4,577	
: Soybeans	499	Bu.		27	2.30	31,266	31.41	15,675	15,591	
: Oats (Grain)	175	Bu.		41	.90	6,506	25.22	4,413	2,093	
: Grain Sorghum	101	Bu.		26	1.53	4,079	22.99	2,322	1,757	
: Idle	127									
: Other 1/	224									
: Woodland	1,211	Acres			11.31	13,696	6.52	7,896	5,800	
: TOTAL	3,454 5/					212,537		164,385	48,152	

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 38 acres water and 392 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop		2/	Unit	Production	Value of production	Cost of production	Net			
Unit: distribution		Acres	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All	Open land	3,454								
	Crops	3,108								
	Cotton	1,592	Lbs. Lint	486	772,490	193,122	127.98	203,559	33,363	
	Cottonseed	(1,592)	Ton	4375	695.24	43,800				
	Rice	544	Cwt.	34	18,496	69,360	108.92	59,252	10,108	
	Soybeans	459	Bu.	25	11,922	27,421	29.79	13,996	2,790	
	Oats (Grain)	233	Bu.	41	9,628	8,665	25.21	5,875	2,586	
	Grain Sorghum	156	Bu.	25	3,978	6,087	22.44	3,501		
	Idle	124								
	Other 1/	346								
	Woodland	-	Acres							
	TOTAL	3,454 5/				348,455		286,163	62,272	

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 38 acres water and 392 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1) Soil Unit	(2) Acres	(3) Gross (Future Without Project Production in Dollars)	(4) Cost	(5) Net	(6) Gross (Future With Project Production in Dollars)	(7) Cost	(8) Net	(9) Difference in Net Production
ZONE A - (not subject to flooding)								
1	1,279	84,739	76,179	8,866	151,478	131,222	20,256	11,390
2SU	1,062	98,051	80,076	17,975	124,019	102,040	21,979	4,004
4	456	50,765	42,342	8,423	79,804	65,085	14,719	6,296
4SU	201	22,852	18,999	3,853	28,045	23,667	4,378	525
Subtotal	2,998	256,407	217,596	39,117	383,346	322,014	61,332	22,215
ZONE B - (subject to flooding)								
1	1,727	63,717	50,140	13,577	172,136	145,061	27,075	13,498
2SU	1,727	148,820	114,245	34,575	176,319	141,122	35,197	622
Subtotal	3,454	212,537	164,385	48,152	348,455	286,183	62,272	14,120
TOTAL	6,452	468,944	381,981	87,269	731,801	608,197	123,604	36,335

- 1/ Adjusted to eliminate negative net return
 2/ Total area Zone A reduced by 111 acres urban, 15 acres water, 1,996 acres woodland not anticipated to be cleared, and 13,608 acres already drained, not requiring or not anticipated to be drained.
 3/ Total area Zone B reduced by 38 acres water and 392 acres woodland not anticipated to be cleared.

Basin: St. Francis River

Project: Blackfish Bayou

Reach: 3

State: Arkansas

TABLE VI
LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
<u>Per Acre</u>				
W to GC	xx:	60:	12.50:	xx
W to IC	xx:	60:	12.50:	xx
W to P	xx:	- :	xx:	xx
P to GC	xx:	xx:	- :	xx
P to IC	xx:	xx:	- :	xx
GC to IC	xx:	xx:	xx:	xx
GC to P	xx:	xx:	xx:	xx
	:	:	:	:
<u>Project</u>				
W to GC	978:	58,680:	12,225:	70,905
W to IC	406:	24,360:	5,075:	29,435
W to P	- :	- :	xx:	-
P to GC	- :	xx:	- :	-
P to IC	- :	xx:	- :	-
GC to IC	56:	xx:	xx:	-
GC to P	- :	xx:	xx:	-
	:	:	:	:
Total project	xx:	83,040:	17,300:	100,340
	:	:	:	:
Annual amortized value <u>2/</u>	xx:	xx:	xx:	5,497
	:	:	:	:
Total annual cost of conversions	xx:	xx:	xx:	5,497
	:	:	:	:

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation 2/	Annual Equivalent Cost 3/	Annual Maintenance Cost	Total Annual Cost
A	1 - General crops	748	12,943	1,247	1,493	2,740
	1 - Rice	403	3,479	335	134	459
	2SU - General crops	956	14,341	1,382	1,655	3,037
	4 - General crops	410	5,452	525	629	1,154
	4SU - General crops	181	2,407	232	278	510
	Subtotal 1/	2,698	38,622	3,721	4,189	7,910
B	1 - General crops	670	11,594	1,117	1,338	2,455
	1 - Rice	274	2,365	228	91	319
	2SU - General crops	252	3,781	364	436	800
	Subtotal 1/	1,196	17,740	1,709	1,865	3,574
	TOTAL 1/	3,894	56,362	5,430	6,054	11,484

1/ Does not include 10 percent "other" land
 includes engineering and contingency
 Amortized over 15 years at 5 percent.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	37,420	0.20	7,484
Right-of-way easements	Acres	10	30.00	300
Crossings	Each	4	300.00	1,200
Swinging water gaps	Each	3	40.00	120
Pipe drop structures	Each	2	200.00	400
Flap gates	Each	2	100.00	200
Vegetative plantings	Acres	4	8.00	32
Total construction cost	xx	xx	xx	9,736
Engineering cost	xx	xx	xx	974
Contingencies & legal	xx	xx	xx	974
Total installation cost				11,684
Annual equivalent - installation cost (amortized for 30 years at 3½ percent)				635
Annual maintenance cost				487
Annual loss of production - right-of-way <u>2/</u>				54
Total annual cost of required group facilities				1,176

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production- right-of-way. 4 acres @\$13.53 per acre.

Basin: St. Francis River
 Project: Blackfish Bayou
 Reach: 3
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted amount
	Dollars	Dollars
1. Net return with project	123,604	xx
2. Net return without project	87,269	xx
3. Gross benefit to project	36,335	22,572 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	5,430	xx
b. Maintenance cost	6,054	xx
c. Total	11,484	7,134
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	635	xx
b. Maintenance cost <u>1/</u>	541	xx
c. Total	1,176	977
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	5,497	xx
b. Maintenance cost	-	xx
c. Total	5,497	3,415

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: St. Francis River

Project: Tyroneza River

Reach: 1

State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	2	530	9	-	-	539
	2SU	8,191	765	-	-	8,956
	4SU	426	-	-	-	426
	11	43	-	-	-	43
Subtotal - all soils		9,190	774	-	-	9,964
Urban		-	-	35	-	35
Water		-	-	-	-	-
Total - Zone A		9,190	774	35	-	9,999
Zone B	2SU	1,402	339	-	-	1,741
Subtotal - all soils		1,402	339	-	-	1,741
Urban		-	-	-	-	-
Water		-	-	-	173	173
Total - Zone B		1,402	339	-	173	1,914
GRAND TOTAL - Reach 1		10,592	1,113	35	173	11,913

Basin: St. Francis River
 Project: Tyronza River
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II. A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop	2/	Production		
Unit :	distribution	Acres	Unit	Per Acre	Total
All :	Open land	: 8,372	:	:	:
:	Crops	: 7,535	:	3/	:
:	Cotton	: 3,382	: Lbs. Lint:	370	: 1,250,640
:	Cottonseed	: (3,382)	: Ton	: .3328	: 1,125.58
:	Rice	: 20	: Cwt.	: 30	: 600
:	Soybeans	: 1,431	: Bu.	: 25	: 35,712
:	Oats (Grain)	: 986	: Bu.	: 30	: 29,330
:	Oats (Sup. Past.)	: (493)	: Lbs. Beef:	70	: 34,510
:	Grain Sorghum	: 383	: Bu.	: 23	: 8,809
:	Perm. Pasture	: 740	: Lbs. Beef:	145	: 107,300
:	Idle	: 593	:	:	:
:	Other 1/	: 837	:	:	:
:	Woodland	: 774	: Acres	:	:
:	TOTAL	: 9,146 4/	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone A reduced by 35 acres urban and 818 acres
 already drained or not requiring drainage.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production: Per Unit	Total	Cost of production: Per Acre	Total	Net Return
Unit: distribution	Acres	Unit	Production	Per Acre	Total	Value of production: Per Unit	Total	Cost of production: Per Acre	Total	Return
ALL : Open land	2,323									
: Crops	2,090									
: Cotton	1,463	Lbs. lint	413 ^{3/}		604,345	.25	151,086	107.98 ^{4/}	157,971	27,382
: Cottonseed	(1,463)	Ton	3718		543.91	63.00	34,267			
: Rice	11	Cwt.	30		330	3.75	1,237	99.96	1,100	137
: Soybeans	268	Bu.	28		7,493	2.30	17,234	31.92	8,554	8,680
: Oats (Grain)	243	Bu.	34		8,226	.90	7,403	21.09	5,125	2,278
: Idle	105									
: Other ^{1/}	233									
: Woodland	117	Acres				5.61	656	3.30	386	270
: TOTAL	2,440 ^{5/}						211,883		173,136	38,747

- ^{1/} Farmsteads, farm roads, waste and non-agricultural
- ^{2/} Parenthetical amounts are duplicated acreages
- ^{3/} Calculated from Columns 3 and 6; rounded to nearest unit.
- ^{4/} Calculated from Columns 3 and 10; rounded to nearest cent
- ^{5/} Total area Zone A reduced by 35 acres urban, 657 acres woodland not anticipated to be cleared, and 6,867 acres already drained or not requiring drainage.

Basin : St. Francis River
 Project: Tyronza River
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION
 OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop		<u>2/</u>	Unit	Production	Value of production	Cost of production	Net			
Unit: distribution	Acres			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All : Open land	2,440									
: Crops	2,196									
: Cotton	1,644		Lbs. lint	509 ^{3/}	836,350	.25	209,087	132.77 ^{4/}	218,266	38,242
: Cottonseed	(1,644)		Ton	4579	752.71	63.00	47,421			
: Soybeans	219		Bu.	28	6,121	2.30	14,078	31.91	6,989	7,089
: Oats (Grain)	115		Bu.	45	5,197	.90	4,677	27.48	3,160	1,517
: Grain Sorghum	109		Bu.	28	3,052	1.53	4,669	23.99	2,615	2,054
: Idle	109									
: Other <u>1/</u>	244									
: Woodland	-		Acres							
: TOTAL	2,440 <u>5/</u>						279,932		231,030	48,902

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 35 acres urban, 657 acres woodland not anticipated to be cleared, and 6,867 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River

Project: Tyronza River

Reach: 1

State: Arkansas

TABLE II B 1/

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>3/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
2SU	Open land	1,402			
	Crops	1,262		<u>4/</u>	
	Cotton	518	Lbs. Lint	385	199,430
	Cottonseed	(518)	Ton	.3465	179.49
	Soybeans	189	Bu.	25	4,725
	Oats (Grain)	177	Bu.	32	5,664
	Oats (Sup. Past.)	(177)	Lbs. Beef	80	14,160
	Perm. Pasture	151	Lbs. Beef	160	24,160
	Idle	227			
	Other <u>2/</u>	140			
	Woodland	339	Acres		
	TOTAL	1,741 <u>5/</u>			

1/ One soil only; no summary required

2/ Farmsteads, farm roads, waste and non-agricultural

3/ Parenthetical amounts are duplicated acreages

4/ 11.41 percent cropland drained

5/ Total area Zone B reduced by 173 acres water.

Stæbe: Arkansas

(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop			Production		Value of production		Cost of production		Net
Unit:	distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
2SU	Open land	1,487								
	Crops	1,338		4/						
	Cotton	736	Lbs. Lint	475	349,600	.25	87,400	123.74	91,073	16,149
	Cottonseed	(736)	Ton	4275	314,64	63.00	19,822			
	Soybeans	268	Bu.	28	7,504	2.30	17,259			
	Oats (Grain)	134	Bu.	42	5,628	.90	5,065			
	Oats (Sup. Past.)	(67)	Lbs. Beef	130	8,710	.2005	1,746			
	Grain Sorghum	67	Bu.	28	1,876	1.53	2,870			
	Perm. Pasture	67	Lbs. Beef	275	18,425	.2005	3,694			
	Idle	66								
	Other 2/	149								
	Woodland	229	Acres			5.61	1,285	3.30	756	529
	TOTAL	1,716 5/					139,141		108,764	30,377

- 1/ One soil only; no summary required
- 2/ Farmsteads, farm roads, waste and non-agricultural
- 3/ Parent/fertical amounts are duplicated acreages
- 4/ 70.75 percent cropland drained
- 5/ Total area Zone B reduced by 173 acres water and 25 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 1
 State: Arkansas

TABLE IV B ^{1/}
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net			
Unit:	distribution			Per Acre:	Total	Per Unit	Total	Per Acre:	Total	Return
2SU	Open land	1,716								
	Crops	1,544		4/						
	Cotton	1,112	Lbs. Lint	495	550,440	.25	137,610	129.27	143,748	25,072
	Cottonseed	(1,112)	Ton	4455	495,440	63.00	31,210			
	Soybeans	185	Bu.	28	5,180	2.30	11,914	31.95	5,911	6,003
	Oats (Grain)	108	Bu.	44	4,752	.90	4,277	26.75	2,889	1,388
	Grain Sorghum	77	Bu.	28	2,156	1.53	3,299	23.99	1,847	1,452
	Idle	62								
	Other <u>2/</u>	172								
	Woodland	-	Acres							
	TOTAL	1,716 <u>5/</u>					188,310		154,395	33,915

- 1/ One soil only; no summary required
- 2/ Farmsteads, farm roads, waste and non-agricultural
- 3/ Parenthetical amounts are duplicated acreages
- 4/ 92.25 percent cropland drained
- 5/ Total area Zone B reduced by 173 acres water and 25 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Future Without Project (Production in Dollars)		Net	Future With Project (Production in Dollars)		Net	Difference in Net Production
		Gross	Cost		Gross	Cost		
ZONE A -- (not subject to flooding)								
2	127	11,395	9,579	1,816	18,337	14,969	3,368	1,552
2SU	2,313	200,488	163,557	36,931	261,595	216,061	45,534	8,603
Subtotal	2,440 1/4	211,883	173,136	38,747	279,932	231,030	48,902	10,155
ZONE B -- (subject to flooding)								
2SU	1,716	139,141	108,764	30,377	188,310	154,395	33,915	3,538
Subtotal	1,716 2/3	139,141	108,764	30,377	188,310	154,395	33,915	3,538
TOTAL	4,156	351,024	281,900	69,124	468,242	385,425	82,817	13,693

- 1/ Total area Zone A reduced by 35 acres urban, 657 acres woodland not anticipated to be cleared, and 6,867 acres already drained, not requiring or not anticipated to be drained.
- 2/ Total area Zone B reduced by 173 acres water and 25 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 1
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
<u>Per Acre</u>				
W to GC	xx	60	12.50	xx
W to IC	xx	-	-	xx
W to P	xx	-	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	346	20,760	4,325	25,085
W to IC	-	-	-	-
W to P	-	-	xx	-
P to GC	67	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	20,760	4,325	25,085
Annual amortized value <u>2/</u>	xx	xx	xx	1,374
Annual maintenance	xx	xx	xx	-
Total annual cost of conversions	xx	xx	xx	1,374

1/ W-woodland; GC- general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Tyrone River
 Reach: 1
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation ^{2/}	Annual Equivalent Instl. Cost ^{3/}	Annual Maintenance Cost	Total Annual Cost
A	2 - General crops	114	1,711	165	197	362
	2SU - General crops	2,082	31,234	3,009	3,604	6,613
	Subtotal	2,196 ^{1/}	32,945	3,174	3,801	6,975
	2SU - General crops	478	7,171	691	827	1,518
B	Subtotal	478 ^{1/}	7,171	691	827	1,518
	TOTAL	2,674 ^{1/}	40,116	3,865	4,628	8,493

- ^{1/} Does not include 10 percent "other" land.
^{2/} Includes engineering and contingency
^{3/} Amortized over 15 years at 5 percent

Basin: St. Francis River
 Project: Tyronza River
 Reach: 1
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	82,817	xx
2. Net return without project	69,124	xx
3. Gross benefit to project	13,693	10,855 <u>1/</u>
4. Farm drainage cost	xx	xx <u>1/</u>
a. Installation cost	3,865	xx
b. Maintenance cost	4,628	xx
c. Total	8,493	6,732
5. Group drainage cost	xx	xx <u>2/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-
6. Conversion cost	xx	xx <u>1/</u>
a. Installation cost	1,374	xx
b. Maintenance cost	-	xx
c. Total	1,374	1,089

1/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

2/ No group drainage; no Table VIII required

Basin: St. Francis River

Project: Tyronza River

Reach: 2

State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	8,391	2,469	-	-	10,860
	2	1,730	678	-	-	2,408
	2SU	14,441	1,348	-	-	15,789
	4SU	1,139	9	-	-	1,148
Subtotal - all soils		25,701	4,504	-	-	30,205
Urban		-	-	26	-	26
Water		-	-	-	18	18
Total - Zone A		25,701	4,504	26	18	30,249
Zone B	1	7,878	1,086	-	-	8,964
	2	9	-	-	-	9
	2SU	7,458	2,709	-	-	10,167
	4SU	34	-	-	-	34
Subtotal - all soils		15,379	3,795	-	-	19,174
Urban		-	-	-	-	-
Water		-	-	-	506	506
Total - Zone B		15,379	3,795	-	506	19,680
GRAND TOTAL - Reach 2		41,080	8,299	26	524	49,929

Basin: St. Francis River
 Project: Tyrone River
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil : Land use and crop	:	<u>2/</u>	:	Production	
Unit : distribution	:	Acres	:	Unit : Per Acre:	Total
All :	:	:	:	:	:
Open land	:	22,568	:	:	:
Crops	:	20,311	:	<u>3/</u>	:
Cotton	:	8,058	:	Lbs. Lint	331 : 2,663,910
Cottonseed	:	(8,058)	:	Ton	: 2975 : 2,397.51
Corn	:	31	:	Bu.	45 : 1,395
Rice	:	356	:	Cwt.	30 : 10,680
Soybeans	:	5,260	:	Bu.	22 : 116,210
Oats (Grain)	:	3,481	:	Bu.	24 : 84,780
Oats (Sup. Past.)	:	(1,034)	:	Lbs. Beef	71 : 73,060
Grain Sorghum	:	602	:	Bu.	21 : 12,600
Perm. Pasture	:	1,639	:	Lbs. Beef	146 : 239,090
Idle	:	884	:	:	:
Other	<u>1/-</u>	2,257	:	:	:
Woodland	:	4,504	:	Acres	:
TOTAL	:	27,072 <u>4/</u>	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 26 acres urban, 18 acres water
 and 3,133 acres already drained.

Basin: St. Francis River
 Project: Tyrone River
 Reach: 2
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop	<u>2/</u>	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net
Units:	distribution	Acre		Per Acre		Per Unit		Per Acre		Return
All:	Open land	5,930								
	Crops	5,338		3/				4/		
	Cotton	2,759	Lbs.Lint	390	1,076,800	.25	269,199	103.39	285,249	45,004 5/6
	Cottonseed	(2,759)	Ton	.3513	969.11	63.00	61,054			45,513 6/
	Corn	87	Bu.	45	3,915	1.45	5,677	37.71	3,281	2,396
	Rice	732	Cwt.	30	21,960	3.75	82,349	99.96	73,170	9,179
	Soybeans	761	Bu.	24	17,909	2.30	41,190	28.48	21,672	19,518
	Oats (Grain)	334	Bu.	25	8,475	.90	7,628	17.24	5,757	1,871
	Oats (Sup.Past.)	(116)	Lbs.Beef	105	12,180	.2005	2,442	9.13	1,059	1,383
	Grain Sorghum	252	Bu.	24	6,110	1.53	9,349	21.67	5,460	3,889
	Perm. Pasture	222	Lbs.Beef	182	40,510	.2005	8,123	25.81	5,730	2,393
	Idle	191								
	Other	592								
	Woodland	1,501	Acre			5.61	8,420	3.30	4,953	3,467
	TOTAL	7,431 7/					495,431		406,331	89,100 5/6

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Includes calculated negative net return
 6/ Adjusted to eliminate negative net return
 7/ Total area zone A reduced by 26 acres urban, 18 acres water, 3,003 acres woodland not anticipated to be cleared, and 19,771 acres already drained or not anticipated to be drained.

Basin: St. Francis River
 Project: Tyrone River
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acreage	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	7,431								
	Crops	6,689		3/				4/		
	Cotton	3,743	Lbs. Lint	532	1,991,925	.25	497,981	140.47	525,783	85,140
	Cottonseed	(3,743)	Ton	4790	1,792,74	63.00	112,942			
	Corn	99	Bu.	53	5,247	1.45	7,608	44.74	4,429	3,179
	Rice	807	Cwt.	35	28,245	3.75	105,918	111.17	89,714	16,204
	Soybeans	952	Bu.	26	24,753	2.30	56,932	30.48	29,021	27,911
	Oats (Grain)	429	Bu.	42	17,841	.90	16,056	25.31	10,857	5,199
	Oats (Sup. Past.)	(124)	Lbs. Beef	70	8,680	.2005	1,740	5.37	666	1,074
	Grain Sorghum	125	Bu.	24	3,000	1.53	4,590	21.51	2,683	1,901
	Perm. Pasture	287	Lbs. Beef	298	85,485	.2005	17,140	40.89	11,735	5,405
	Idle	247								
	Other	1/								
	Woodland	742								
	TOTAL	7,431 5/	Acreage				820,907		674,894	146,013

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 26 acres urban, 18 acres water, 3,003 acres woodland not anticipated to be cleared, and 19,771 acres already drained or not anticipated to be drained.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil: Land use and crop :	<u>2/</u>	:	:	Production	:
Unit: distribution :	Acres :	Unit :	Per Acre:	Total	:
:	:	:	:	:	:
All: Open land :	15,379 :	:	:	:	:
: Crops :	13,841 :	:	3/ :	:	:
: Cotton :	5,181 :	Lbs.Lint:	316 :	1,636,035	:
: Cottonseed :	(5,181) :	Ton :	.2842 :	1,472.43	:
: Corn :	354 :	Bu. :	14 :	4,956	:
: Soybeans :	2,931 :	Bu. :	18 :	53,415	:
: Oats (Grain) :	2,022 :	Bu. :	23 :	45,846	:
: Grain Sorghum :	338 :	Bu. :	24 :	8,112	:
: Perm. Pasture :	1,844 :	Lbs.Beef:	167 :	307,090	:
: Idle :	1,171 :	:	:	:	:
: Other <u>1/</u> :	1,538 :	:	:	:	:
:Woodland :	3,795 :	Acres :	:	:	:
: TOTAL :	19,174 :	:	:	:	:
:	<u>4/</u> :	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone B reduced by 506 acres water.

Basin: St. Francis River

Project: Tyrone River

Reach: 2

State: Arkansas

SUMMARY - TABLE III B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS

COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION

PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT

(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution			Per Acre		Per Unit	Per Acre	Return		
All	Open land	16,138								
	Crops	14,525								
	Cotton	5,805	Lbs. Lint	3/461	2,673,335	.25	668,334	120.74	700,879	119,033
	Cottonseed	(5,805)	Ton	.4145	2,406.00	63.00	151,578			
	Rice	2,550	Cwt.	34	86,700	3.75	325,125	108.92	277,746	47,379
	Soybeans	3,409	Bu.	26	87,801	2.30	201,942	30.36	103,485	98,457
	Oats (Grain)	1,235	Bu.	39	48,005	.90	43,204	23.89	29,501	13,703
	Grain Sorghum	945	Bu.	24	22,962	1.53	35,132	21.69	20,501	14,631
	Idle	581								
	Other	1,613								
	Woodland	2,581	Acres				14,480		8,518	5,962
	TOTAL	18,719					1,439,795		1,140,630	299,165

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Calculated from Columns 3 and 10; rounded to nearest cent

5/ Total area zone B reduced by 506 acres water and 455 acres woodland net anticipated to be cleared

Basin: St. Francis River
Project: Tyronza River
Reach: 2
State: Arkansas

SUMMARY - TABLE IV B
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop		<u>2/</u>		Production		Value of production	Cost of production	Net		
Unit: distribution	Acre		Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All: Open land						Dollars	Dollars	Dollars	Dollars	Dollars
: Crops	18,719			3/				4/		
: Cotton	16,848			513	5,120,980	.25	1,280,244	137.00	1,367,810	202,794
: Cottonseed	(9,984)		Ton	4616	4,608,88	63.00	290,360			
: Rice	1,988		Cwt.	35	69,580	3.75	260,925	111.17	221,006	39,919
: Soybeans	2,321		Bu.	25	57,833	2.30	133,016	29.68	68,889	64,127
: Oats (Grain)	1,287		Bu.	42	54,246	.90	48,821	25.66	35,029	15,792
: Grain Sorghum	762		Bu.	26	20,064	1.53	30,698	22.96	17,492	13,206
: Idle	506									
: Other	1,871									
: <u>1/</u> Woodland			Acre							
: TOTAL	18,719	5/					2,044,064		1,708,226	335,838

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages.

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Calculated from Columns 3 and 10; rounded to nearest cent

5/ Total area zone B reduced by 506 acres water and 455 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 2
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			Difference in Net Production
		Gross	Cost	Net	Gross	Cost	Net	
ZONE A - (not subject to flooding)								
1	2,764	122,283	106,972	15,820	266,840	222,106	44,734	28,914
2	675	42,043	34,679	7,364	101,036	83,333	17,703	10,339
2SU	3,667	294,693	234,613	60,080	408,478	332,071	76,407	16,327
4SU	325	36,412	30,067	6,345	44,553	37,384	7,169	824
Subtotal	7,431	495,431	406,331	89,609	820,907	674,894	146,013	56,404
ZONE B - (subject to flooding)								
1	8,834	698,422	575,087	123,335	959,947	817,228	142,719	19,384
2SU	9,885	741,373	565,543	175,830	1,084,117	890,998	193,119	17,289
Subtotal	18,719	1,439,795	1,140,630	299,165	2,044,064	1,708,226	335,838	36,673
TOTAL	26,150	1,935,226	1,546,961	388,774	2,864,971	2,383,120	481,851	93,077

- 1/ Adjusted to eliminate negative net return.
 2/ Total area zone A reduced by 26 acres urban, 18 acres water, 3,003 acres woodland not anticipated to be cleared, and 19,771 acres already drained or not anticipated to be drained.
 3/ Total area zone B reduced by 506 acres water and 455 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 2
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60.00	12.50	xx
W to IC	xx	60.00	12.50	xx
W to P	xx	60.00	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	3,942	236,520	49,275	285,795
W to IC	75	4,500	937	5,437
W to P	65	3,900	xx	3,900
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	244,920	50,212	295,132
Annual amortized value 2/	xx	xx	xx	16,167
Total annual cost of conversions	xx	xx	xx	16,167

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P- pasture.

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Tyronza River
 Reach: 2
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost	Annual Equivalent Cost 2/	Annual Maintenance Cost	Total Annual Cost
A	1 - General crops	1,617	27,978	2,695	3,228	5,923
	1 - Rice	746	6,439	620	248	868
	1 - Pasture	125	1,163	112	27	139
	2 - General crops	517	7,756	747	895	1,642
	2 - Rice	61	526	51	20	71
	2 - Pasture	30	279	27	6	33
	2SU - General crops	3,168	47,527	4,579	5,484	10,063
	2SU - Pasture	132	1,228	118	28	146
	4SU - General crops	293	3,896	375	450	825
	Subtotal	6,689 1/2	96,792	9,324	10,386	19,710
B	1 - General crops	2,288	39,589	3,814	4,568	8,382
	1 - Rice	50	431	42	17	59
	2SU - General crops	2,660	39,905	3,844	4,604	8,448
	Subtotal	4,998 1/2	79,925	7,700	9,189	16,889
	TOTAL	11,687 1/2	176,717	17,024	19,575	36,599

1/ Does not include 10 percent "other" land. 3/ Amortized over 15 years at 5 percent
 2/ Includes engineering and contingency

Basin:	St. Francis River
Project:	Tyronza River
Reach:	2
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	37,960	0.20	7,592
Right-of-way easements	Acres	6	30.00	180
Crossings	Each	4	300.00	1,200
Swinging water gaps	Each	6	40.00	240
Pipe drop structures	Each	4	200.00	800
Flap gates	Each	5	100.00	500
Vegetative plantings	Acres	5	8.00	40
Total construction cost	xx	xx	xx	10,552
Engineering cost	xx	xx	xx	1,055
Contingencies and legal	xx	xx	xx	1,055
Total installation cost				12,662
Annual equivalent - installation cost (amortized for 30 years at 3½ percent)				688
Annual maintenance cost				528
Annual loss of production - right-of-way ^{2/}				30
Total annual cost of required group facilities				1,246

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 2 acres @ \$14.87 per acre.

Basin:	St. Francis River
Project:	Tyronza River
Reach:	2
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	481,851	xx
2. Net return without project	388,774	xx
3. Gross benefit to project	93,077	57,821 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	17,024	xx
b. Maintenance cost	19,575	xx
c. Total	36,599	22,736
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	688	xx
b. Maintenance cost <u>1/</u>	558	xx
c. Total	1,246	1,035
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	16,167	xx
b. Maintenance cost	-	xx
c. Total	16,167	10,043

1/ Includes loss of production, right-of-way.

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin:	St. Francis River
Project:	Tyronza River
Reach:	3
State:	Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	9,028	787	-	-	9,815
	2	3,748	9	-	-	3,757
	3	33,115	278	-	-	33,393
	4	4,591	9	-	-	4,600
	11	2,800	-	-	-	2,800
Subtotal - all soils		53,282	1,083	-	-	54,365
Urban		-	-	175	-	175
Water		-	-	-	181	181
Total - Zone A		53,282	1,083	175	181	54,721
Zone B	1	7,620	852	-	-	8,472
	2SU	9	-	-	-	9
	3	2,045	-	-	-	2,045
Subtotal - all soils		9,674	852	-	-	10,526
Urban		-	-	17	-	17
Water		-	-	-	254	254
Total - Zone B		9,674	852	17	254	10,797
GRAND TOTAL - Reach 3		62,956	1,935	192	435	65,518

Basin: St. Francis River
 Project: Tyronza River
 Reach: 3
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil : Land use and crop	:	<u>2/</u>	:	Production	
Unit : distribution	:	Acres	:	Unit : Per Acre:	Total
All : Open land	:	49,877	:	:	:
: Crops	:	44,890	:	<u>3/</u>	:
: Cotton	:	16,534	: Lbs. Lint	: 332	: 5,490,125
: Cottonseed	:	(16,534)	: Ton	: .2988	: 4,941.12
: Corn	:	776	: Bu.	: 39	: 30,309
: Rice	:	162	: Cwt.	: 30	: 4,860
: Soybeans	:	12,423	: Bu.	: 20	: 248,250
: Oats (Grain)	:	9,322	: Bu.	: 24	: 220,880
: Oats (Sup. Past.)	:	(2,173)	: Lbs. Beef	: 70	: 152,110
: Grain Sorghum	:	368	: Bu.	: 19	: 7,169
: Perm. Pasture	:	3,325	: Lbs. Beef	: 171	: 568,435
: Idle	:	1,980	:	:	:
: Other <u>1/</u>	:	4,987	:	:	:
: Woodland	:	1,083	: Acres	:	:
: TOTAL	:	<u>50,960</u>	:	:	:
:	:	<u>4/</u>	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 175 acres urban, 181 acres water,
 and 3,405 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Tyronza River
 Reach: 3
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Unit	Acres	Unit	Production	Total	Value of production : Per Unit	Total	Cost of production : Per Acre	Total	Net Return
All : Open land		9,851								
: Crops		8,867		3/				4/		
: Cotton		4,659	Lbs. Lint	366	1,705,545	.25	426,386	98.20	457,534	65,556 5/
: Cottonseed		(4,659)	Ton	.3295	1,534.99	63.00	96,704			67,027 6/
: Corn		55	Bu.	45	2,458	1.45	3,564	37.49	2,062	1,502
: Rice		200	Cwt.	30	6,000	3.75	22,500	99.96	19,992	2,508
: Soybeans		1,833	Bu.	22	40,645	2.30	93,483	27.70	50,777	42,706
: Oats (Grain)		930	Bu.	27	25,313	.90	22,782	18.03	16,769	6,013
: Oats (Sup. Past.)		(341)	Lbs. Beef	100	33,985	.2005	6,814	8.55	2,917	3,897
: Grain Sorghum		317	Bu.	24	7,608	1.53	11,640	21.51	6,819	4,821
: Perm. Pasture		606	Lbs. Beef	195	118,030	.2005	23,665	27.19	16,480	7,185
: Idle		267								
: Other	1/	984								
: Woodland		359	Acres			5.61	2,014	3.30	1,185	829
: TOTAL		10,210 7/					709,552		574,535	135,017 5/
1/ Farmsteads, farm roads, waste and non-agricultural										136,488 6/

2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Includes calculated negative net return
 6/ Adjusted to eliminate negative net return
 7/ Total area zone A reduced by 175 acres urban, 181 acres water, 724 acres woodland not anticipated to be cleared, and 43,431 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Tyroneza River
 Reach: 3
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS - FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	10,210								
	Crops	9,190								
	Cotton	4,822	Lbs. Lint	508	2,451,465	.25	612,865	132.45	638,668	113,195
	Cottonseed	(4,822)	Ton	4576	2,206,31	63.00	138,998			
	Corn	55	Bu.	62	3,397	1.45	4,926	54.00	2,970	1,956
	Rice	224	Cwt.	35	7,840	3.75	29,400	111.17	24,902	4,498
	Soybeans	1,880	Bu.	27	50,168	2.30	115,386	30.98	58,242	57,144
	Oats (Grain)	965	Bu.	44	42,010	.90	37,809	26.49	25,562	12,247
	Oats (Sup. Past.)	(618)	Lbs. Beef	113	69,990	2005	14,033	10.01	6,188	7,845
	Grain Sorghum	322	Bu.	24	7,728	1.53	11,824	21.51	6,926	4,898
	Perm. Pasture	646	Lbs. Beef	300	193,570	2005	38,812	41.11	26,557	12,255
	Idle	276								
	Other	1,020								
	Woodland		Acres							
	TOTAL	10,210					1,004,053		790,015	214,038

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
 5/ Total area zone A reduced by 175 acres urban, 181 acres water, 724 acres woodland not anticipated to be cleared, and 43,431 acres already drained, not requiring drainage or not anticipated to be drained.

Basin:	St. Francis River
Project:	Tyronza River
Reach:	3
State:	Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	(3)	(4)	(5)	(6)
Soil: Land use and crop:	2/			Production	
Unit: distribution		Acres	Unit	Per Acres	Total
All: Open land		9,674			
: Crops		8,707		3/	
: Cotton		3,462	Lbs. Lint:	250	865,770
: Cottonseed		(3,462)	Ton	.2251	779.19
: Soybeans		2,470	Bu.	15	37,466
: Oats (Grain)		1,743	Bu.	17	29,382
: Oats (Sup. Past.)		(83)	Lbs. Beef:	70	5,810
: Perm. Pasture		317	Lbs. Beef:	157	49,850
: Idle		715			
: Other 1/		967			
: Woodland		852	Acres		
: TOTAL		10,526 ^{4/}			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone B reduced by 17 acres urban and 254 acres water.

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS ¹⁹⁴¹ WITHOUT PROJECT
 (Based on projected prices)

[illegible]

Basin: St. Francis River
 Project: Tyroneza River
 Reach: 3
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop	Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit:	distribution			Per Acre		Per Unit		Per Acre		
All:	Open land	10,322				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	9,290		3/				4/		
	Cotton	4,923	Lbs. Lint	434	2,431,245	.25	607,811	131.20	645,910	99,752
	Cottonseed	(4,923)	Ton	.4445	2,188.12	63.00	137,851			
	Corn	223	Bu.	33	7,359	1.45	10,671	27.78	6,195	4,476
	Soybeans	2,231	Bu.	24	52,793	2.30	121,424	28.75	64,139	57,285
	Oats (Grain)	1,301	Bu.	39	50,363	.90	45,326	23.64	30,759	14,567
	Oats (Sup. Past.)	(375)	Lbs. Beef	88	32,970	.2005	6,611	7.29	2,735	3,876
	Perm. Pasture	334	Lbs. Beef	287	95,740	.2005	19,196	39.52	13,201	5,995
	Idle	278								
	Other	1,032								
	Woodland	-	Acres							
	TOTAL	10,322 5/					948,890		762,939	185,951

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 17 acres urban, 254 acres water, and 204 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tyrone River
 Reach: 3
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			
1	2,484	111,479	103,785	9,165	236,516	190,532	45,984	36,819
2	890	69,321	56,011	13,310	99,987	80,539	19,448	6,138
3	5,964	451,130	354,999	96,131	561,086	436,476	124,610	28,479
4	872	77,622	59,740	17,882	106,464	82,468	23,996	6,114
Subtotal	10,210	709,552	574,535	136,488	1,004,053	790,015	214,038	77,550
1	8,268	600,548	483,596	116,952	739,863	596,521	143,342	26,390
3	2,054	195,023	154,682	40,341	209,027	166,418	42,609	2,268
Subtotal	10,322	795,571	638,278	157,293	948,890	762,939	185,951	28,658
TOTAL	20,532	1,505,123	1,212,813	293,781	1,952,943	1,552,954	399,989	106,208
1/	Adjusted to eliminate negative net return							
2/	Total area zone A reduced by 175 acres urban, 181 acres water, 724 acres woodland not anticipated to be cleared, and 43,431 acres already drained not requiring drainage or not anticipated to be drained.							
3/	Total area zone B reduced by 17 acres urban, 254 acres water, and 204 acres woodland not anticipated to be cleared.							

Basin: St. Francis River
 Project: Tyrone River
 Reach: 3
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Amount
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Per Acre				
W to GC	xx	50	15	xx
W to IC	xx	50	15	xx
W to P	xx	50	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	594	29,700	8,910	38,610
W to IC	24	1,200	360	1,560
W to P	48	2,400	xx	2,400
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	33,300	9,270	42,570
Annual amortized value 2/	xx	xx	xx	2,332
Total annual cost of conversions	xx	xx	xx	2,332

1/ W-woodland; GC - general dry-farmed crops; IC -irrigated crops; (rice); P -pasture

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Tyroneza River
 Reach: 3
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation 2/	Annual Equivalent Instl. Cost 3/	Annual Maintenance Cost	Total Annual Cost
		Acre	Dollars	Dollars	Dollars	Dollars
A	1 - General crops	1,677	29,017	2,795	3,348	6,143
	1 - Rice	224	1,933	186	74	260
	1 - Pasture	335	3,119	300	72	372
	2 - General crops	729	10,937	1,054	1,262	2,316
	2 - Pasture	72	671	65	15	80
	3 - General crops	5,153	89,162	8,590	13,717	22,307
	3 - Pasture	215	2,001	193	154	347
	4 - General crops	761	10,120	975	1,168	2,143
	4 - Pasture	24	195	19	4	23
	Subtotal	9,190 1/	147,155	14,177	19,814	33,991
B	1 - General crops	2,117	36,630	3,529	4,227	7,756
	1 - Pasture	65	604	58	14	72
	3 - General crops	369	6,384	615	982	1,597
	3 - Pasture	24	223	21	17	38
	Subtotal	2,575 1/	43,841	4,223	5,240	9,463
	TOTAL	11,765 1/	190,996	18,400	25,054	43,454

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin: St. Francis River
 Project: Tyroneza River
 Reach: 3
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Shaping or spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	28,350	0.20	5,670
Right-of-way easements	Acres	4	30.00	120
Crossings	Each	3	300.00	900
Swinging water gaps	Each	5	40.00	200
Pipe drop structures	Each	3	200.00	600
Flap gates	Each	4	100.00	400
Vegetative plantings	Acres	3	8.00	24
Total construction cost	XX	XX	XX	7,914
Engineering cost	XX	XX	XX	791
Contingencies and legal	XX	XX	XX	791
Total installation cost				9,496
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				516
Annual maintenance cost				396
Annual loss of production - right-of-way <u>2/</u>				14
Total annual cost of required group facilities				926

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 1 acre @ \$14.31 per acre.

Basin:	<u>St. Francis River</u>
Project:	<u>Tyronza River</u>
Reach:	<u>3</u>
State:	<u>Arkansas</u>

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	399,989	xx
2. Net return without project	293,781	xx
3. Gross benefit to project	106,208	84,192 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	18,400	xx
b. Maintenance cost	25,054	xx
c. Total	43,454	34,446
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	516	xx
b. Maintenance cost <u>1/</u>	410	xx
c. Total	926	769
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	2,332	xx
b. Maintenance cost	-	xx
c. Total	2,332	1,849

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin:	St. Francis River
Project:	Fifteen Mile Bayou
State:	Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Watered (Acres)	Urban (Acres)	Total (Acres)
Zone A	1	33,183	12,764	-	-	45,947
	1SU	3,755	443	-	-	4,198
	2	3,338	100	-	-	3,438
	2SU	27,059	1,077	-	-	28,136
	4	11,661	100	-	-	11,761
	4SU	1,656	45	-	-	1,701
	11	271	-	-	-	271
	11SU	172	-	-	-	172
Subtotal - all soils		81,095	14,529	-	-	95,624
Urban		-	-	280	-	280
Water		-	-	-	3,520	3,520
Total - Zone A		81,095	14,529	280	3,520	99,424
Zone B	1	1,358	260	-	-	1,618
	1SU	1,104	274	-	-	1,378
	2SU	711	829	-	-	1,540
Subtotal - all soils		3,173	1,363	-	-	4,536
Urban		-	-	-	-	-
Water		-	-	-	-	-
Total - Zone B		3,173	1,363	-	-	4,536
Zone C	1	267	-	-	-	267
	1SU	478	-	-	-	478
	2SU	812	-	-	-	812
Subtotal - all soils		1,557	-	-	-	1,557
Urban		-	-	-	-	-
Water		-	-	-	83	83
Total - Zone C		1,557	-	-	83	1,640
GRAND TOTAL Project		85,825	15,892	280	3,603	105,600

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	65,467			
	Crops	58,921		3/	
	Cotton	22,777	Lbs. Lint	321	7,316,895
	Cottonseed	(22,777)	Ton	2891	6,585.20
	Corn	317	Bu.	43	13,699
	Rice	2,785	Cwt.	30	83,550
	Soybeans	12,544	Bu.	20	244,933
	Oats (Grain)	9,907	Bu.	23	229,356
	Oats (Sup. Past.)	(2,315)	Lbs. Beef	71	163,230
	Grain Sorghum	2,137	Bu.	19	41,152
	Perm. Pasture	4,231	Lbs. Beef	148	635,445
	Idle	4,173			
	Other 1/	6,546			
	Woodland	12,535	Acres		
	TOTAL	78,002 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone A reduced by 280 acres urban, 3,520 acres water, 1,994 acres dedicated to woodland, and 15,628 acres already drained or not requiring drainage.

SUMMARY - TABLE III A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

[illegible]

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas
 SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	21,075								
	Crops	18,968		3/				4/		
	Cotton	11,085	Lbs. Lint	569	6,310,440	25	1,577,609	151.27	1,676,823	258,587
	Cottonseed	(11,085)	Ton	5123	5,679.39	63.00	357,801			
	Rice	3,269	Cwt.	35	114,415	3.75	429,056	111.17	363,414	65,642
	Soybeans	2,061	Bu.	25	52,081	2.30	119,786	29.95	61,726	58,060
	Oats (Grain)	963	Bu.	42	40,426	.90	36,384	25.28	24,340	12,044
	Oats (Sup. Past.)	(174)	Lbs. Beef	150	26,070	2005	5,227	13.95	2,427	2,800
	Grain Sorghum	656	Bu.	24	15,868	1.53	24,278	21.63	14,187	10,091
	Perm. Pasture	210	Lbs. Beef	333	69,890	2005	14,013	45.17	9,485	4,528
	Idle	724								
	Other	2,107								
	Woodland		Acres							
	TOTAL	21,075					2,564,154		2,152,402	411,752

1/ Farmsteads, farm roads, waste and non agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 280 acres urban, 3,520 acres water, 1,994 acres dedicated to woodland, 9,829 acres woodland not anticipated to be cleared, and 62,726 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil:	Land use and crop	:	<u>2/</u>	:		:	Production	:	
Unit:	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:	:	:	:	:	:	:	:	:	:
All:	Open land	:	3,173	:	:	:	:	:	:
:	Crops	:	2,856	:	:	:	<u>3/</u>	:	:
:	Cotton	:	816	:	Lbs.Lint:	:	361	:	294,345
:	Cottonseed	:	(816)	:	Ton	:	.3246	:	264.91
:	Soybeans	:	723	:	Bu.	:	21	:	15,183
:	Oats (Grain)	:	584	:	Bu.	:	29	:	16,690
:	Grain Sorghum	:	45	:	Bu.	:	19	:	855
:	Perm. Pasture	:	149	:	Lbs.Beef:	:	187	:	27,865
:	Idle	:	539	:	:	:	:	:	:
:	Other <u>1/</u>	:	317	:	:	:	:	:	:
:	Woodland	:	1,363	:	Acres	:	:	:	:
:	TOTAL	:	4,536	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit.

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	3,623								
	Crops	3,260								
	Cotton	1,496	Lbs. Lint	442 3/4	661,450	.25	165,362	115.55	172,861	30,005
	Cottonseed	(1,496)	Ton	.3979	595.30	63.00	37,504			
	Rice	453	Cwt.	34	15,402	3.75	57,757	108.92	49,341	8,416
	Soybeans	442	Bu.	25	10,993	2.30	25,284	29.64	13,099	12,185
	Oats (Grain)	282	Bu.	36	10,234	.90	9,211	22.34	6,299	2,912
	Grain Sorghum	242	Bu.	24	5,701	1.53	8,722	21.24	5,140	3,582
	Idle	345								
	Other	363								
	Woodland	813	Acres				5,586		3,243	2,343
	TOTAL	4,436 5/8					309,426		249,983	59,443

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 100 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS; FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	4,436								
	Crops	3,992								
	Cotton	2,331	Lbs. Lint	3/496	1,155,585	.25	288,896	4/131.57	306,682	47,735
	Cottonseed	(2,331)	Ton	.4462	1,040.02	63.00	65,521			
	Rice	501	Cwt.	35	17,535	3.75	65,756	111.17	55,696	10,060
	Soybeans	548	Bu.	25	13,894	2.30	31,956	29.93	16,400	15,556
	Oats (Grain)	240	Bu.	41	9,945	.90	8,950	25.22	6,054	2,896
	Grain Sorghum	200	Bu.	26	5,129	1.53	7,847	22.53	4,506	3,341
	Idle	172								
	Other	444								
	Woodland	-	Acres							
	TOTAL	4,436					468,926		389,338	79,588

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 100 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

SUMMARY - TABLE II C
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION:
EXISTING CONDITIONS

(1):	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil: Land use and crop	:		:		:		:		Production
Unit: distribution	:		Acres	:	Unit	:	Per Acre:	:	Total
All: Open land	:		1,557	:		:		:	
: Crops	:		1,402	:		:	<u>2/</u>	:	
: Corn	:		280	:	Bu.	:	29	:	8,118
: Soybeans	:		420	:	Bu.	:	24	:	9,897
: Grain Sorghum	:		282	:	Bu.	:	21	:	5,811
: Idle	:		420	:		:		:	
: Other <u>1/</u>	:		155	:		:		:	
: Woodland	:		-	:	Acres	:		:	
: TOTAL	:		1,557	:		:		:	
:	:		<u>3/</u>	:		:		:	

1/ Farm roads, waste and non-agricultural

2/ Calculated from Columns 3 and 6; rounded to nearest unit

3/ Total area zone C reduced by 83 acres water

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

SUMMARY - TABLE III C 5/
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(12)
Soil : Land use and crop	Unit : distribution	Acres	Unit	Production : Per Acre	Total	Value of production : Per Unit	Total	Cost of production : Per Acre	Total	Net Return : Dollars
All : Open land		1,557								
: Crops		1,402								
: Corn		280	Bu.	33 2/3	9,250	1.45	13,412	29.24	8,187	5,225
: Soybeans		420	Bu.	27	11,157	2.30	25,661	30.81	12,941	12,720
: Grain Sorghum		282	Bu.	25	6,951	1.53	10,635	21.91	6,180	4,455
: Idle		420								
: Other	1/	155								
: Woodland		-	Acres							
: TOTAL		1,557 4/					49,708		27,308	22,400

- 1/ Farm roads, waste and non-agricultural
- 2/ Calculated from Columns 3 and 6; rounded to nearest unit
- 3/ Calculated from Columns 3 and 10; rounded to nearest cent
- 4/ Total area zone C reduced by 83 acres water
- 5/ Data same for both "future without" and "future with" project; no table IV C required

TABLE V
PRODUCT AREA SUMMARY BY SOIL MAPPING UNITS

TABLE V
BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			
1	11,814	663,549	596,979	69,671	1,356,975	1,167,392	189,583	119,912
1SU	917	57,976	47,226	10,750	82,277	65,672	16,605	5,855
2	585	54,056	45,464	8,592	91,086	75,157	15,929	7,337
2SU	5,245	494,514	403,312	91,202	610,280	499,225	111,055	19,853
4	2,248	244,994	203,924	41,070	386,984	314,283	72,701	31,631
4SU	266	29,619	24,556	5,063	36,552	30,673	5,879	816
Subtotal:	21,075	1,544,708	1,321,461	226,348	2,564,154	2,152,402	411,752	185,404
		ZONES B & C (subject to flooding)						
1	1,591	115,812	96,011	19,801	175,962	151,667	24,295	4,494
1SU	2,104	113,016	85,701	27,315	150,612	116,220	34,392	7,077
2SU	2,298	130,306	95,579	34,727	192,060	148,759	43,301	8,574
Subtotal:	5,993	359,134	277,291	81,843	518,634	416,646	101,988	20,145
TOTAL:	27,068	1,903,842	1,598,752	308,191	3,082,788	2,569,048	513,740	205,549
1/	Adjusted to eliminate negative net return							
2/	Total area zone A reduced by 280 acres urban, 3,520 acres water, 1,994 acres dedicated to woodland, 9,829 acres woodland not anticipated to be cleared and 62,726 acres already drained, not requiring drainage or not anticipated to be drained.							
3/	Total area zones B & C reduced by 83 acres water and 100 acres woodland not anticipated to be cleared.							

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	12.50	xx
W to IC	xx	60	12.50	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	12.50	xx
P to IC	xx	xx	12.50	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	3,466	207,960	43,325	251,285
W to IC	48	2,880	600	3,480
W to P	5	300	xx	300
P to GC	16	xx	200	200
P to IC	5	xx	62	62
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	211,140	44,187	255,327
Annual amortized value 2/	xx	xx	xx	13,987
Total annual cost of conversions	xx	xx	xx	13,987

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P- pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
		Acres	Dollars	Dollars	Dollars	Dollars
A	1 - General crops	7,443	128,786	12,407	14,860	27,267
	1 - Rice	3,190	27,536	2,653	1,059	3,712
	1SU - General crops	825	14,275	1,375	1,647	3,022
	2 - General crops	448	6,721	647	775	1,422
	2 - Rice	79	682	66	26	92
	2SU - General crops	4,579	68,694	6,618	7,926	14,544
	2SU - Pasture	142	1,322	127	31	158
	4 - General crops	1,962	26,092	2,514	3,011	5,525
	4 - Pasture	61	496	48	11	59
	4SU - General crops	232	3,085	297	356	653
	4SU - Pasture	7	57	5	1	6
	Subtotal	18,968 1/2	277,746	26,757	29,703	56,460
B	1 - General crops	225	3,893	375	449	824
	1 - Rice	120	1,036	100	40	140
	1SU - General crops	494	8,547	823	986	1,809
	2SU - General crops	686	10,291	991	1,187	2,178
	Subtotal	1,525 1/2	23,767	2,289	2,662	4,951
	TOTAL	20,493 1/2	301,513	29,046	32,365	61,411

1/ Does not include 10 percent "other" land.
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	82,800	0.20	16,560
Right-of-way easements	Acres	19	30.00	570
Crossings	Each	8	300.00	2,400
Swinging water gaps	Each	10	40.00	400
Pipe drop structures	Each	2	200.00	400
Flap gates	Each	4	100.00	400
Vegetative plantings	Acres	15	8.00	120
Total construction cost	xx	xx	xx	20,850
Engineering cost	xx	xx	xx	2,085
Contingencies and legal	xx	xx	xx	2,085
Total installation cost				25,020
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				1,360
Annual maintenance cost				1,042
Annual loss of production - right-of-way <u>2/</u>				91
Total annual cost of required group facilities				2,493

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 8 acres @ \$11.39 per acre.

Basin: St. Francis River
 Project: Fifteen Mile Bayou
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	513,740	xx
2. Net return without project	308,191	xx
3. Gross benefit to project	205,549	127,691 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	29,046	xx
b. Maintenance cost	32,365	xx
c. Total	61,411	38,150
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	1,360	xx
b. Maintenance cost <u>1/</u>	1,133	xx
c. Total	2,493	2,070
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	13,987	xx
b. Maintenance cost	-	xx
c. Total	13,987	8,689

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin:	St. Francis River
Project:	Big Creek
Reach:	1
State:	Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil mapping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	16,674	6,193	-	-	22,867
	2	11,316	25	-	-	11,341
	2SU	32,632	3,647	-	-	36,279
	4SU	509	-	-	-	509
	11	1,227	-	-	-	1,227
	11SU	3,472	-	-	-	3,472
Subtotal - all soils		65,830	9,865	-	-	75,695
Urban		-	-	159	-	159
Water		-	-	-	125	125
Total - Zone A		65,830	9,865	159	125	75,979
Zone B	1	2,500	529	-	-	3,029
	2SU	3,811	1,020	-	-	4,831
Subtotal - all soils		6,311	1,549	-	-	7,860
Urban		-	-	-	-	-
Water		-	-	-	166	166
Total - Zone B		6,311	1,549	-	166	8,026
GRAND TOTAL - Reach 1		72,141	11,414	159	291	84,005

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil: Land use and crop	:	<u>2/</u>	:	Production	
Unit: distribution	:	Acres	:	Unit :Per Acre:	Total
:	:	:	:	:	:
All: Open land	:	59,181	:	:	:
: Crops	:	53,263	:	<u>3/</u>	:
: Cotton	:	21,127	:Lbs.Lint :	332	: 7,022,715
: Cottonseed	:	(21,127)	: Ton :	2992	: 6,320.45
: Rice	:	826	: Cwt. :	30	: 24,780
: Soybeans	:	13,715	: Bu. :	22	: 305,685
: Oats (Grain)	:	9,092	: Bu. :	24	: 220,768
: Oats (Sup. Past.)	:	(3,462)	:Lbs.Beef :	70	: 242,340
: Grain Sorghum	:	1,801	: Bu. :	21	: 38,532
: Perm. Pasture	:	4,332	:Lbs.Beef :	145	: 628,140
: Idle	:	2,370	:	:	:
: Other <u>1/</u>	:	5,918	:	:	:
:Woodland	:	9,865	: Acres :	:	:
: TOTAL	:	<u>69,046</u> <u>4/</u>	:	:	:
:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 159 acres urban, 125 acres water,
 6,659 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	14,142								
	Crops	12,728								
	Cotton	6,685	Lbs. Lint	385 ^{3/}	2,575,020	.25	643,755	102.14 ^{4/}	682,794	106,965
	Cottonseed	(6,685)	Ton	3467	2,317.51	63.00	146,004			108,040
	Corn	199	Bu.	45	8,955	1.45	12,985	37.71	7,504	5,481
	Rice	1,700	Cwt.	30	51,000	3.75	191,249	99.96	169,932	21,317
	Soybeans	1,789	Bu.	24	42,749	2.30	98,322	28.75	51,434	46,888
	Oats (Grain)	696	Bu.	25	17,476	.90	15,728	17.11	11,906	3,822
	Oats (Sup. Past.)	(249)	Lbs. Beef	105	26,145	.2005	5,242	9.13	2,273	2,969
	Grain Sorghum	636	Bu.	25	15,806	1.53	24,183	22.04	14,019	10,164
	Perm. Pasture	570	Lbs. Beef	182	103,480	.2005	20,747	25.66	14,628	6,119
	Idle	453								
	Other ^{1/}	1,414								
	Woodland	3,011	Acres			6.40	19,270	3.09	9,304	9,966
	TOTAL	17,153 ^{7/}					1,177,485		963,794	213,691
										214,766 ^{6/}

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Includes calculated negative net return
 6/ Adjusted to eliminate negative net return
 7/ Total area zone A reduced by 159 acres urban, 125 acres water, 6,854 acres woodland not anticipated to be cleared and 51,688 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	17,153								
	Crops	15,437								
	Cotton	8,718	Lbs. Lint	540	4,711,165	.25	1,177,791	4/	1,240,259	204,655
	Cottonseed	(8,718)	Ton	4864	4,240.05	63.00	267,123			
	Corn	229	Bu.	53	12,137	1.45	17,599	44.74	10,245	7,354
	Rice	1,848	Cwt.	35	64,680	3.75	242,550	111.17	205,443	37,107
	Soybeans	2,195	Bu.	26	57,205	2.30	131,571	30.52	66,986	64,585
	Oats (Grain)	917	Bu.	42	38,061	.90	34,254	25.26	23,161	11,093
	Oats (Sup. Past.)	(554)	Lbs. Beef	109	60,305	.2005	12,091	9.55	5,288	6,803
	Grain Sorghum	267	Bu.	24	6,408	1.53	9,804	21.51	5,743	4,061
	Perm. Pasture	695	Lbs. Beef	300	208,465	.2005	41,798	41.15	28,597	13,201
	Idle	568								
	Other	1,716								
	Woodland	-	Acres							
	TOTAL	17,153 5/					1,934,581		1,585,722	348,859

Farmsteads, farm roads, waste and non-agricultural
 Parenthetical amounts are duplicated acreages.
 Calculated from Columns 5 and 6; rounded to nearest unit
 Calculated from Columns 3 and 10; rounded to nearest cent
 Total area zone A reduced by 159 acres urban, 125 acres water, 6,854 acres woodland not anticipated to be
 cleared, and 51,688 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONDITOL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil: Land use and crop	:		2/	:			Production		
Unit: distribution	:		Acres	:	Unit	:	Per Acre:		Total
All: Open land	:		6,311	:		:		:	
: Crops	:		5,680	:		:	3/	:	
: Cotton	:		2,159	:	Lbs.Lint:	:	325	:	702,370
: Cottonseed	:		(2,159)	:	Ton	:	.2928	:	632.13
: Corn	:		112	:	Bu.	:	14	:	1,568
: Soybeans	:		1,110	:	Bu.	:	19	:	21,450
: Oats (Grain)	:		772	:	Bu.	:	24	:	18,368
: Oats (Sup.Past.)	:		(344)	:	Lbs.Beef:	:	75	:	25,800
: Grain Sorghum	:		171	:	Bu.	:	23	:	3,933
: Perm. Pasture	:		856	:	Lbs.Beef:	:	155	:	132,680
: Idle	:		500	:		:		:	
: Other 1/	:		631	:		:		:	
: Woodland	:		1,549	:	Acres	:		:	
: TOTAL	:		7,860 4/	:		:		:	

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone B reduced by 166 acres water

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit: distribution						Per Unit	Total	Per Acre	Total	Return
						Dollars	Dollars	Dollars	Dollars	Dollars
All: Open land	6,621									
Crops	5,959									
Cotton	2,510	Lbs. Lint	466	3/	1,169,650	25	292,412	121.87	305,904	52,827
Cottonseed	(2,510)	Ton	41.94		1,052,68	63.00	66,319			
Rice	821	Cwt.	34		27,914	3.75	104,677	108.92	89,423	15,254
Soybeans	1,508	Bu.	26		39,760	2.30	91,448	30.79	46,431	45,017
Oats (Grain)	525	Bu.	39		20,738	.90	18,664	24.16	12,683	5,981
Grain Sorghum	370	Bu.	25		9,232	1.53	14,125	22.10	8,177	5,948
Idle	225									
Other	662									
Woodland	1,054	Acres				6.40	6,746	3.09	3,256	3,490
TOTAL	7,675	5/					594,391		465,874	128,517

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages,
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 166 acres water and 185 acres woodland not anticipated to be cleared.

Basin: St, Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production : Per Unit	Total	Cost of production : Per Acre	Total	Net Return
Unit : distribution										
All : Open land	7,675									
: Crops	6,907									
: Cotton	4,252	Lbs. Lint	506	3/	2,152,780	25	538,195	134.55	572,091	88,167
: Cottonseed	(4,252)	Ton	4557		1,937,500	63.00	122,063			
: Rice	667	Cwt.	35		23,345	3.75	87,544	111.17	74,150	13,394
: Soybeans	904	Bu.	25		22,432	2.30	51,594	29.66	26,809	24,785
: Oats (Grain)	557	Bu.	43		23,710	.90	21,339	25.91	14,432	6,907
: Grain Sorghum	320	Bu.	27		8,528	1.53	13,048	23.15	7,409	5,639
: Idle	207									
: Other	768									
: <u>Woodland</u>	<u>-</u>	Acres								
: TOTAL	7,675						833,783		694,891	138,892

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 166 acres water and 185 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Acres	Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			Difference in Net Production
Unit		Gross	Cost	Net	Gross	Cost	Net	
1	5,937	259,732	225,340	35,467	573,231	477,152	96,079	60,612
2	2,716	242,946	202,188	40,758	406,063	334,903	71,160	30,402
2SU	8,500	674,807	536,266	138,541	955,287	773,667	181,620	43,079
Subtotal	17,153	1,177,485	963,794	214,766	1,934,581	1,585,722	348,859	134,093
1	2,966	228,041	187,125	40,916	ZONE B - (subject to flooding)			
2SU	4,709	366,350	278,749	87,601	317,413	270,513	46,900	5,984
Subtotal	7,675	594,391	465,874	128,517	516,370	424,378	91,992	4,391
TOTAL	24,828	1,771,876	1,429,668	343,283	833,783	694,891	138,892	10,375
					2,768,364	2,280,613	487,751	144,468

- 1/ Adjusted to eliminate negative net return
- 2/ Total area zone A reduced by 159 acres urban, 125 acres water, 6,854 acres woodland not anticipated to be cleared, and 51,688 acres already drained, not requiring drainage or not anticipated to be drained.
- 3/ Total area zone B reduced by 166 acres water and 185 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	15	xx
W to IC	xx	60	15	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	3,792	227,520	56,880	284,400
W to IC	148	8,880	2,220	11,100
W to P	125	7,500	xx	7,500
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	243,900	59,100	303,000
Annual amortized value 2/	xx	xx	xx	16,598
Total annual cost of conversions	xx	xx	xx	16,598

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Big Creek
 Reach: 1
 State: Arkansas

TABLE VII:
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation 2/ Instl. Cost 3/	Annual Equivalent Instl. Cost 3/	Annual Maintenance Cost	Total Annual Cost
A	1 - General crops	3,473	60,094	5,789	6,934	12,723
	1 - Rice	1,603	13,837	1,333	532	1,865
	1 - Pasture	267	2,485	239	57	296
	2 - General crops	2,077	31,160	3,002	3,595	6,597
	2 - Rice	245	2,115	204	81	285
	2 - Pasture	122	1,136	109	26	135
	2SU - General crops	7,344	110,175	10,614	12,712	23,326
	2SU - Pasture	306	2,848	274	66	340
	Subtotal	15,437 1/	223,850	21,564	24,003	45,567
B	1 - General crops	689	11,922	1,149	1,376	2,525
	2SU - General crops	1,116	16,743	1,613	1,932	3,545
	Subtotal	1,805 1/	28,665	2,762	3,308	6,070
	TOTAL	17,242 1/	252,515	24,326	27,311	51,637

1/ Does not include 10 percent "other" land.
 2/ Includes engineering and contingency

3/ Amortized over 15 years at 5 percent

Basin:	St. Francis River
Project:	Big Creek
Reach:	1
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	42,600	0.20	8,520
Right-of-way easements	Acres	4	30.00	120
Crossings	Each	6	300.00	1,800
Swinging water gaps	Each	8	40.00	320
Pipe drop structures	Each	1	200.00	200
Flap gates	Each	3	100.00	300
Vegetative plantings	Acres	4	8.00	32
Total construction cost	xx	xx	xx	11,292
Engineering cost	xx	xx	xx	1,129
Contingencies and legal	xx	xx	xx	1,129
Total installation cost				13,550
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				737
Annual maintenance cost				565
Annual loss of production - right-of-way <u>2/</u>				14
Total annual cost of required group facilities				1,316

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 1 acre @ \$13.83. per acre.

Basin:	St. Francis River
Project:	Big Creek
Reach:	1
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	487,751	xx 2/
2. Net return without project	343,283	xx
3. Gross benefit to project	144,468	114,521 2/
4. Farm drainage cost	xx	xx 2/
a. Installation cost	24,326	xx
b. Maintenance cost	27,311	xx
c. Total	51,637	40,933
5. Group drainage cost	xx	xx 3/
a. Installation cost	737	xx
b. Maintenance cost 1/	579	xx
c. Total	1,316	1,093
6. Conversion cost	xx	xx 2/
a. Installation cost	16,598	xx
b. Maintenance cost	-	xx
c. Total	16,598	13,157

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin:	St. Francis River
Project:	Big Creek
Reach:	2
State:	Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map : ping unit	: Open (Acres)	: Wooded (Acres)	: Urban (Acres)	: Water (Acres)	: Total (Acres)
Zone A	1	2,529	1,002	-	-	3,531
	2	3,113	159	-	-	3,272
	2SU	14,605	1,135	-	-	15,740
	4	985	-	-	-	985
	11SU	8,989	83	-	-	9,072
Subtotal -all soils		30,221	2,379	-	-	32,600
Urban		-	-	67	-	67
Water		-	-	-	-	-
Total-Zone A		30,221	2,379	67	-	32,667
Zone B	1	1,089	3,933	-	-	5,022
	2SU	853	566	-	-	1,419
	11SU	87	-	-	-	87
Subtotal -all soils		2,029	4,499	-	-	6,528
Urban		-	-	-	-	-
Water		-	-	-	960	960
Total-Zone B		2,029	4,499	-	960	7,488
GRAND TOTAL-Reach 2		32,250	6,878	67	960	40,155

Basin: St. Francis River
 Project: Big Creek
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II: A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	19,642			
	Crops	17,679		3/	
	Cotton	7,147	Lbs.Lint:	352	2,518,020
	Cottonseed	(7,147)	Ton	3171	2,266.22
	Corn	12	Bu.	43	516
	Rice	137	Cwt.	30	4,110
	Soybeans	4,683	Bu.	24	110,678
	Oats (Grain)	2,822	Bu.	27	75,388
	Oats (Sup.Past.)	(1,111)	Lbs.Beef:	70	77,770
	Grain Sorghum	575	Bu.	22	12,749
	Perm. Pasture	1,545	Lbs.Beef:	145	224,585
	Idle	758			
	Other 1/	1,963			
	Woodland	2,296	Acres		
	TOTAL	21,938 _{4/}			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone A reduced by 67 acres urban and 10,662 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Big Creek
 Reach: 2
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	4,552								
	Crops	4,096		3/				4/		
	Cotton	2,425	Lbs. Lint	399	968,655	.25	242,164	105.10	254,863	42,223.5
	Cottonseed	(2,425)	Ton	3595	871.78	63.00	54,922			42,400.6
	Corn	82	Bu.	45	3,690	1.45	5,350	37.71	3,092	2,258
	Rice	309	Cwt.	30	9,270	3.75	34,762	99.96	30,887	3,875.1
	Soybeans	574	Bu.	26	14,840	2.30	34,132	30.28	17,381	16,751.1
	Oats (Grain)	200	Bu.	29	5,788	.90	5,210	18.86	3,772	1,438.1
	Oats (Sup. Pasture)	(109)	Lbs. Beef	105	11,445	.2005	2,295	9.13	995	1,300
	Grain Sorghum	198	Bu.	26	5,225	1.53	7,994	22.99	4,553	3,441
	Perm. Pasture	173	Lbs. Beef	189	32,775	.2005	6,571	26.89	4,652	1,919
	Idle	135								
	Other	456								
	Woodland	655	Acres				4,192		2,024	2,168
	TOTAL	5,207.7/					397,592		322,219	75,373.5/

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Includes calculated negative net return
 6/ Adjusted to eliminate negative net return
 7/ Total area zone A reduced by 67 acres urban, 1,641 acres woodland not anticipated to be cleared, and 25,752 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Big Creek
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	5,207								
	Crops	4,686		3/				4/		
	Cotton	2,957	Lbs.	534	1,578,095	.25	394,523	139.70	413,092	70,908
	Cottonseed	(2,957)	Ton	4803	1,420.29	65.00	89,477			
	Corn	91	Bu.	53	4,823	1.45	6,993	44.74	4,071	2,922
	Rice	332	Cwt.	35	11,620	3.75	43,575	111.17	36,909	6,666
	Soybeans	661	Bu.	27	17,796	2.30	40,931	31.15	20,593	20,338
	Oats (Grain)	244	Bu.	43	10,472	.90	9,425	26.11	6,371	3,054
	Oats (Sup. Past.)	(165)	Lbs.	125	20,625	.2005	4,136	11.27	1,860	2,276
	Grain Sorghum	44	Bu.	24	1,056	1.53	1,616	21.51	946	670
	Perm. Pasture	199	Lbs.	303	60,325	.2005	12,094	41.54	8,266	3,828
	Idle	158								
	Other	521								
	Woodland	-								
	TOTAL	5,207	Acres				602,770		492,108	110,662

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 67 acres urban, 1,641 acres woodland not anticipated to be cleared, and 25,752 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Big Creek
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil : Land use and cro	2/			Production	
Unit : distribution	Acres	Unit	Per Acre	Total	
All : Open land	2,029				
: Crops	1,826				
: Cotton	681	Lbs. Lint	335		227,960
: Cottonseed	(681)	Ton	3013		205.16
: Corn	49	Bu.	19		931
: Soybeans	392	Bu.	19		7,608
: Oats	271	Bu.	26		7,014
: Oats (Sup. Past)	(85)	Lbs. Beef	70		5,950
: Grain Sorghum	42	Bu.	23		966
: Perm. Pasture	237	Lbs. Beef	156		37,020
: Idle	154				
: Other 1/	203				
: Woodland	2,279	Acres			
: TOTAL	4,308				
	4/				

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone B reduced by 960 acres water and 2,220 acres dedicated to woodland.

Basin: St. Francis River
Project: Big Creek
Reach: 2
State: Arkansas

SUMMARY - TABLE III B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS

COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION

PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT

(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution			Per Acre		Per Unit	Total	Per Acre	Total	Return
All	Open land	2,485								
	Crops	2,237		3/				4/		
	Cotton	851	Lbs. Lint	477	406,230	.25	101,557	125.29	106,618	17,971
	Cottonseed	(851)	Ton	4298	365.60	63.00	23,032			
	Rice	468	Cwt.	35	16,380	3.75	61,425	111.17	52,028	9,397
	Soybeans	488	Bu.	26	12,664	2.30	29,127	30.44	14,856	14,271
	Oats (Grain)	184	Bu.	40	7,352	.90	6,617	24.35	4,481	2,136
	Grain Sorghum	152	Bu.	25	3,832	1.53	5,863	22.26	3,384	2,479
	Idle	94								
	Other	248								
	Woodland	1,549	Acres			6.40	9,913	3.09	4,787	5,126
	TOTAL	4,034					237,534		186,154	51,380

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages.

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Calculated from Columns 3 and 10; rounded to nearest cent

5/ Total area zone B reduced by 960 acres water, 2,220 acres dedicated to woodland, and 274 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Big Creek
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production: Per Unit	Total	Cost of production: Per Acre	Total	Net Return
All	Open land	4,034								
	Crops	3,631		3/				4/		
	Cotton	1,927	Lbs. Lint	508	978,550	.25	244,637	137.22	264,420	35,701
	Cottonseed	(1,927)	Ton	4570	880.69	63.00	55,484			
	Rice	636	Cwt.	34	21,624	3.75	81,090	108.92	69,273	11,817
	Soybeans	567	Bu.	23	13,128	2.30	30,195	28.46	16,138	14,057
	Oats (Grain)	236	Bu.	40	9,495	.90	8,545	24.57	5,798	2,747
	Grain Sorghum	156	Bu.	25	3,858	1.53	5,902	21.97	3,427	2,475
	Idle	109								
	Other	403								
	Woodland		Acres							
	TOTAL	4,034					425,853		359,056	66,797

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 960 acres water, 2,220 acres dedicated to woodland, and 274 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Projects: Big Creek
 Reach: 2
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Future Without Project (Production in Dollars)	Cost	Net	Future With Project (Production in Dollars)	Cost	Net
1	973	42,771	37,127	5,821	94,000	78,262	15,738	9,917
2	766	68,507	57,023	11,484	114,402	94,359	20,043	8,559
2SU	3,371	275,731	219,303	56,428	379,083	306,945	72,138	15,710
4	97	10,583	8,766	1,817	15,285	12,542	2,743	926
Subtotal:	5,207	397,592	322,219	75,550	602,770	492,108	110,662	35,112
1	2,825	146,727	117,225	29,502	294,533	251,232	43,301	13,799
2SU	1,209	90,807	68,929	21,878	131,320	107,824	23,496	1,618
Subtotal:	4,034	237,534	186,154	51,380	425,853	359,056	66,797	15,417
TOTAL:	9,241	635,126	508,373	126,930	1,028,623	851,164	177,459	50,529

1/ Adjusted to eliminate negative net return
 2/ Total area zone A reduced by 67 acres urban, 1,641 acres woodland not anticipated to be cleared, and 25,752 acres already drained, not requiring drainage or not anticipated to be drained.
 3/ Total area zone B reduced by 960 acres water, 2,220 acres dedicated to woodland, and 274 acres woodland not anticipated to be cleared.

Basin:	St. Francis River
Project:	Big Creek
Reaches:	2
State:	Arkansas

TABLE VI
LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	12.50	xx
W to IC	xx	60	12.50	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	1,987	119,220	24,837	144,057
W to IC	191	11,460	2,387	13,847
W to P	26	1,560	xx	1,560
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	132,240	27,224	159,464
Annual amortized value 2/	xx	xx	xx	8,735
Total annual cost of conversions	xx	xx	xx	8,735

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P- pasture

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Big Creek
 Reach: 2
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation	Annual Equivalent Instl. Cost	Annual Maintenance Cost	Total Annual Cost
			Dollars	Dollars	Dollars	Dollars
A	1 - General crops	559	9,845	948	1,136	2,084
	1 - Rice	265	2,270	219	87	306
	1 - Pasture	44	409	39	9	48
	2 - General crops	586	8,790	847	1,014	1,861
	2 - Rice	69	596	57	23	80
	2 - Pasture	34	316	30	7	37
	2SU - General crops	2,913	43,701	4,210	5,042	9,252
	2SU - Pasture	121	1,126	108	26	134
	4 - General crops	87	1,157	111	133	244
	Subtotal	4,686 1/2	68,210	6,569	7,477	14,046
B	1 - General crops	896	15,504	1,494	1,789	3,283
	1 - Rice	131	1,131	109	43	152
	2SU - General crops	343	5,146	496	594	1,090
	Subtotal	1,370 1/2	21,781	2,099	2,426	4,525
	TOTAL	6,056 1/2	89,991	8,668	9,903	18,571

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin:	St. Francis River
Project:	Big Creek
Reach:	2
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	62,300	0.20	12,460
Right-of-way easements	Acres	5	30.00	150
Crossings	Each	6	300.00	1,800
Swinging water gaps	Each	8	40.00	320
Pipe drop structures	Each	2	200.00	400
Flap gates	Each	4	100.00	400
Vegetative plantings	Acres	4	8.00	32
Total construction cost	xx	xx	xx	15,562
Engineering cost	xx	xx	xx	1,556
Contingencies and legal	xx	xx	xx	1,556
Total installation cost				18,674
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				1,015
Annual maintenance cost				778
Annual loss of production - right-of-way ^{2/}				27
Total annual cost of required group facilities				1,820

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 2 acres @ \$13.74 per acre.

Basin:	St. Francis River
Project:	Big Creek
Reach:	2
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	177,459	xx
2. Net return without project	126,930	xx
3. Gross benefit to project	50,529	31,390 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	8,668	xx
b. Maintenance cost	9,903	xx
c. Total	18,571	11,537
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	1,015	xx
b. Maintenance cost <u>1/</u>	805	xx
c. Total	1,820	1,511
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	8,735	xx
b. Maintenance cost	-	xx
c. Total	8,735	5,426

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: St. Francis River
 Project: Ditch # 40
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	34,489	1,217	-	-	35,706
	2	39,502	268	-	-	39,770
	2SU	246	-	-	-	246
	3	15,173	78	-	-	15,251
	4	167	-	-	-	167
	11	13,097	112	-	-	13,209
Subtotal - all soils		102,674	1,675	-	-	104,349
Urban		-	-	793	-	793
Water		-	-	-	560	560
Total - Zone A		102,674	1,675	793	560	105,702
Zone B	1	1,486	243	-	89	1,818
Subtotal - all soils		1,486	243	-	-	1,818
Urban		-	-	-	-	-
Water		-	-	-	89	89
Total - Zone B		1,486	243	-	89	1,818
GRAND TOTAL - Project		104,160	1,918	793	649	107,520

Basin: St. Francis River

Project: Ditch # 40

State: Arkansas

SUMMARY - TABLE II A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop :	<u>2/</u>	Production		
Unit :	distribution :	Acres	Unit	Per Acre:	Total
All :	Open land	88,822			
	Crops:	79,940		<u>3/</u>	
	Cotton	37,415	Lbs.Lint	307	11,504,615
	Cottonseed	(37,415)	Ton	.2767	10,354.16
	Corn	1,482	Bu.	40	59,532
	Rice	1,222	Cwt.	30	36,660
	Soybeans	16,282	Bu.	19	313,300
	Oats (Grain)	13,928	Bu.	21	290,483
	Oats (Sup.Past.)	(3,471)	Lbs.Beef	70	242,970
	Perm. Pasture	6,499	Lbs.Beef	151	980,575
	Idle	3,112			
	Other <u>1/</u>	8,882			
	Woodland	1,563	Acres		
	TOTAL	90,385 <u>4/</u>			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages.

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area zone A reduced by 793 acres urban, 560 acres water and 13,964 acres already drained or not requiring drainage.

Basin: St. Francis River
 Projects: Ditch # 40
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net	Return		
Unit : distribution			Per Acre		Per Unit	Per Acre	Total	Total	Dollars	Dollars
All : Open land	16,990									
Crops	15,291		3/					4/		
Cotton	6,171	Lbs.Lint	353	2,179,360	.25	544,840	95.16	587,256	81,154	5/
Cottonseed	(6,171)	Ton	3178	1,961.43	63.00	123,570	35.99	7,342	5,377	1
Corn	204	Buc	43	8,772	1.45	12,719	99.96	235,406	29,531	6
Rice	2,355	Cwt.	30	70,650	3.75	264,937	26.69	64,094	52,576	1
Soybeans	2,401	Buc	21	50,726	.90	53,360	16.78	40,577	12,783	1
Oats (Grain)	2,418	Buc	25	59,289	.2005	9,627	6.38	3,858	5,769	1
Oats (Sup.Past.)	(605)	Lbs.Beef	79	48,020	1.53	2,864	21.51	1,678	1,186	
Grain Sorghum	78	Buc	24	1,872	.2005	38,007	24.96	26,535	11,472	
Perm. Pasture	1,063	Lbs.Beef	178	189,560						
Idle	601									
Other	1,699									
Woodland	678	Acres			3.36	2,278	1.76	1,193	1,085	
TOTAL	17,668 7/					1,168,872		967,939	200,933 5/	202,670 6/

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Includes calculated negative net return
 6/ Adjusted to eliminate negative net return
 7/ Total area zone A reduced by 793 acres urban, 560 acres watered, 885 acres woodland not anticipated to be cleared, and 85,796 acres already drained, not requiring drainage or not anticipated to be drained.

Basins: St. Francis River
 Project: Ditch # 40
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	17,668								
	Crops	15,902		3/				4/		
	Cotton	6,891	Lbs.	597	4,116,090	.25	1,029,022	157,071	1,082,403	180,001
	Cottonseed	(6,891)	Ton	.5376	3,704,47	63.00	233,382			
	Corn	555	Bu.	55	19,603	1.45	28,425	46.48	16,499	11,926
	Rice	2,124	Cwt.	35	74,340	3.75	278,775	111.17	236,125	42,650
	Soybeans	3,310	Bu.	25	84,262	2.30	193,802	30.04	99,449	94,353
	Oats (Grain)	2,039	Bu.	43	87,002	.90	78,302	25.97	52,956	25,346
	Oats (Sup. Past.)	(540)	Lbs. Beef	132	71,380	.2005	14,312	12.04	6,502	7,810
	Grain Sorghum	130	Bu.	24	3,120	1.53	4,774	21.51	2,796	1,978
	Perm. Pasture	450	Lbs. Beef	317	142,440	.2005	28,559	43.18	19,432	9,127
	Idle	603								
	Other	1,766								
	Woodland		Acres							
	TOTAL	17,668					1,889,353		1,516,162	373,191

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages,
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 793 acres urban, 560 acres watered, 885 acres woodland not anticipated to be cleared, and 85,796 acres already drained, not requiring drainage or not anticipated to be drained

Basin: St. Francis River
 Project: Ditch # 40
 State: Arkansas

TABLE II B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRUCULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil:	Land use and crop	:	<u>3/</u>	:		:	Production	:	
Unit:	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:	:	:	:	:	:	:	:	:	:
1 :	Open land	:	1,486	:	:	:	:	:	:
:	Crops	:	1,337	:	:	:	:	:	:
:	Cotton	:	495	:	Lbs.Lint:	:	210	:	103,950
:	Cottonseed	:	(495)	:	Ton	:	.1890	:	93,55
:	Soybeans	:	388	:	Bu.	:	14	:	5,432
:	Oats (Grain)	:	308	:	Bu.	:	16	:	4,928
:	Perm. Pasture	:	40	:	Lbs.Beef:	:	145	:	5,800
:	Idle	:	106	:	:	:	:	:	:
:	Other <u>2/</u>	:	149	:	:	:	:	:	:
:	Woodland	:	243	:	Acres	:	:	:	:
:	TOTAL	:	<u>1,729</u>	:	:	:	:	:	:
:	:	:	<u>4/</u>	:	:	:	:	:	:

- 1/ One soil only; no summary required.
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages.
4/ Total area zone B reduced by 89 acres water.

TABLE III B 1/
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

[illegible]

TABLE IV B 1/
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

[illegible]

Basin: St. Francis River
 Project: Ditch # 40
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Future Without Project (Production in Dollars)	Cost	Net	Future With Project (Production in Dollars)	Cost	Net
1	7,095	399,329	354,984	46,082	1/	678,793	565,789	113,004
2	7,690	589,513	476,164	113,349		954,424	755,347	199,077
3	2,883	180,030	136,791	43,239		256,136	195,026	61,110
Subtotal	17,668	1,168,872	967,939	202,670	ZONE A - (not subject to flooding)	1,889,353	1,516,162	373,191
1	1,644	115,250	90,577	24,673	ZONE B - (subject to flooding)	141,171	111,471	29,700
Subtotal	1,644	115,250	90,577	24,673		141,171	111,471	29,700
TOTAL	19,312	1,284,122	1,058,516	227,343		2,030,524	1,627,633	402,891

- 1/ Adjusted to eliminate negative net return
- 2/ Total area zone A reduced by 793 acres urban, 560 acres watered, 885 acres woodland not anticipated to be cleared and 85,796 acres already drained, not requiring drainage or not anticipated to be drained.
- 3/ Total area zone B reduced by 89 acres acres water and 85 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 40
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	50	15	xx
W to IC	xx	50	15	xx
W to P	xx	-	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	592	29,600	8,880	38,480
W to IC	123	6,150	1,845	7,995
W to P	-	-	xx	-
P to GC	234	xx	-	-
P to IC	85	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	35,750	10,725	46,475
Annual amortized value 2/	xx	xx	xx	2,546
Total annual cost of conversions	xx	xx	xx	2,546

1/ W-woodland; GC - general dry-farmed crops; IC - irrigated crops; (rice); P -pasture.

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Ditch # 40
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation 2/ 3/	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
		Acres	Dollars	Dollars	Dollars	Dollars
A	1 - General crops	4,470	77,345	7,451	8,924	16,375
	1 - Rice	1,916	16,538	1,593	636	2,229
	2 - General crops	6,367	95,517	9,202	11,021	20,223
	2 - Rice	208	1,795	173	69	242
	2 - Pasture	346	3,220	310	74	384
	3 - General crops	2,491	43,101	4,152	6,631	10,783
	3 - Pasture	104	968	93	74	167
	Subtotal	15,902	238,484	22,974	27,429	50,403
	1 - General crops	430	7,440	717	858	1,575
	1 - Rice	22	190	18	7	25
B	1 - Pasture	14	130	13	3	16
	Subtotal	466	7,760	748	868	1,616
	TOTAL	16,368	246,244	23,722	28,297	52,019
	Does not include 10 percent "other" land					
Includes engineering and contingency						
Amortized over 15 years at 5 percent						

Basin: St. Francis River
 Project: Ditch # 40
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	76,200	0.20	15,240
Right-of-way easements	-	-	-	-
Crossings	Each	10	300.00	3,000
Swinging water gaps	Each	10	40.00	400
Pipe drop structures	Each	3	200.00	600
Flap gates	-	-	-	-
Vegetative plantings	Acres	40	8.00	320
Total construction cost	XX	XX	XX	19,560
Engineering cost	XX	XX	XX	1,956
Contingencies and legal	XX	XX	XX	1,956
Total installation cost				23,472
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				1,276
Annual maintenance cost				978
Annual loss of production - right-of-way				-
Total annual cost of required group facilities				2,254

1/ These items included in excavation costs under normal contract procedures.

Basin:	St. Francis River
Project:	Ditch # 40
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	402,891	xx
2. Net return without project	227,343	xx
3. Gross Benefit to project	175,548	109,054 2/
4. Farm drainage cost	xx	xx 2/
a. Installation cost	23,722-	xx
b. Maintenance cost	28,297	xx
c. Total	52,019	32,315
5. Group drainage cost	xx	xx 3/
a. Installation cost	1,276	xx
b. Maintenance cost 1/	978	xx
c. Total	2,254	1,872
6. Conversion cost	xx	xx 2/
a. Installation cost	2,546	xx
b. Maintenance cost	-	xx
c. Total	2,546	1,582

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation maintenance, and benefit accrual.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	3,240	-	-	-	3,240
	2	2,697	-	-	-	2,697
	2SU	3,044	-	-	-	3,044
	11SU	11	-	-	-	11
Subtotal - all soils		8,992	-	-	-	8,992
Urban		-	-	54	-	54
Water		-	-	-	20	20
Total - Zone A		8,992	-	54	20	9,066
Zone B	1	4,747	119	-	-	4,866
	2	16	-	-	-	16
	2SU	1,304	355	-	-	1,659
Subtotal - all soils		6,067	474	-	-	6,541
Urban		-	-	-	-	-
Water		-	-	-	211	211
Total - Zone B		6,067	474	-	211	6,752
GRAND TOTAL - Reach 1		15,059	474	54	231	15,818

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	8,936			
	Crops	8,043		<u>3/</u>	
	Cotton	4,400	Lbs. Lint	318	1,398,950
	Cottonseed	(4,400)	Ton	.28 61	1,259.05
	Soybeans	1,584	Bu.	20	31,682
	Oats (Grain)	855	Bu.	22	18,605
	Oats (Sup. Past.)	(265)	Lbs. Beef	70	18,550
	Grain Sorghum	121	Bu.	23	2,783
	Perm. Pasture	477	Lbs. Beef	145	69,165
	Idle	606			
	Other <u>1/</u>	893			
	Woodland	-	Acres		
	TOTAL	8,936 <u>4/</u>			

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 54 acres urban, 20 acres water, and
 56 acres already drained or not requiring drainage.

St. Francis River
Ditch # 1
1
Arkansas

SUMMARY - TABLE III A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

[illegible]

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	2,549								
	Crops	2,294								
	Cotton	1,264	lbs. lint	564	712,290	.25	178,072	4/	188,435	30,024
	Cottonseed	(1,264)	Ton	5072	641.06	63.00	40,387		149.08	
	Corn	13	Bu.	70	910	1.45	1,319		67.25	874
	Soybeans	453	Bu.	26	11,623	2.30	26,733		30.22	13,688
	Oats (Grain)	241	Bu.	42	10,231	.90	9,207		25.84	6,228
	Oats (Sup. Past.)	(84)	lbs. Beef	137	11,540	2005	2,314		12.61	1,059
	Grain Sorghum	115	Bu.	27	3,064	1.53	4,688		23.16	2,663
	Perm. Pasture	99	lbs. Beef	311	30,780	2005	6,171		42.49	4,207
	Idle	109								
	Other	255								
	Woodland	-	Acres							
	TOTAL	2,549 5/					268,891		217,154	51,737

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
 5/ Total area zone A reduced by 54 acres urban, 20 acres water, and 6,443 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop :	<u>2/</u>	Production		
Unit :	distribution	Acres	Unit	Per Acre:	Total
All :	Open land	6,067			
	Crops	5,460		<u>3/</u>	
	Cotton	2,687	Lbs. Lint:	257	690,705
	Cottonseed	(2,687)	Ton	.2313	621.63
	Rice	85	Cwt.	30	2,550
	Soybeans	933	Bu.	18	16,485
	Oats (Grain)	803	Bu.	19	15,198
	Oats (Sup. Past.)	(89)	Lbs. Beef:	70	6,230
	Perm. Pasture	155	Lbs. Beef:	145	22,475
	Idle	797			
	Other <u>1/</u>	607			
Woodland		474	Acres		
	TOTAL	6,541	<u>4/</u>		

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone B reduced by 211 acres water.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COST, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return Dollars
All	Open land	6,233								
	Crops	5,610		3/				4/		
	Cotton	2,589	Lbs.	451	1,168,355	.25	292,089	119.28	308,826	49,509
	Cottonseed	(2,589)	Ton	.4061	1,051.52	63.00	66,246			
	Rice	172	Cwt.	34	5,848	3.75	21,930	108.92	18,734	3,196
	Soybeans	1,036	Bu.	23	23,576	2.30	54,225	28.23	29,243	24,982
	Oats (Grain)	561	Bu.	36	19,984	.90	17,986	22.03	12,357	5,629
	Oats (Sup. Past.)	(65)	Lbs.	130	8,450	.2005	1,694	11.83	769	925
	Grain Sorghum	367	Bu.	23	8,464	1.53	12,950	20.93	7,681	5,269
	Perm. Pasture	91	Lbs.	270	24,570	.2005	4,926	37.48	3,411	1,515
	Idle	794								
	Other	623								
	Woodland		Acres							
	TOTAL	6,233 5/					472,046		381,021	91,025

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 211 acres water and 308 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COST, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	6,233								
	Crops	5,610								
	Cotton	2,797	Lbs. Lint	502 ^{3/}	1,405,205	.25	351,301	4/ 134.21	375,390	55,586
	Cottonseed	(2,797)	Ton	.4522	1,264,68	63.00	79,675			
	Corn	129	Bu.	33	4,257	1.45	6,173	27.78	3,584	2,589
	Rice	129	Cwt.	35	4,515	3.75	16,931	111.17	14,341	2,590
	Soybeans	1,252	Bu.	24	30,096	2.30	69,221	29.03	36,351	32,870
	Oats (Grain)	552	Bu.	39	21,444	.90	19,300	23.73	13,097	6,203
	Oats (Sup. Past.)	(58)	Lbs. Beef	140	8,120	.2005	1,628	12.89	748	880
	Grain Sorghum	280	Bu.	25	6,980	1.53	10,680	22.09	6,184	4,496
	Perm. Pasture	91	Lbs. Beef	300	27,300	.2005	5,474	41.16	3,746	1,728
	Idle	380								
	Other <u>1/</u>	623								
	Woodland	-	Acres							
	TOTAL	6,233 <u>5/</u>					560,383		453,441	106,942

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 211 acres water and 308 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			
				ZONE A - (not subject to flooding)				
1	863	35,818	33,341	3,050	82,144	68,820	13,324	10,274 1/
2	728	56,785	45,659	11,126	92,473	74,076	18,397	7,271
2SU	958	74,286	57,449	16,837	94,274	74,258	20,016	3,179
Subtotal	2,549	166,889	136,449	31,013	268,891	217,154	51,737	20,724
1	4,789	347,403	284,276	63,127	420,141	342,886	77,255	14,128
2SU	1,444	124,643	96,745	27,898	140,242	110,565	29,687	1,789
Subtotal	6,233	472,046	381,021	91,025	560,383	453,441	106,942	15,917
TOTAL	8,782	638,935	517,470	122,038	829,274	670,595	158,679	36,641

- 1/ Adjusted to eliminate negative net return
 2/ Total area zone A reduced by 54 acres urban 20 acres water, and 6,443 acres already drained, not requiring drainage or not anticipated to be drained.
 3/ Total area zone B reduced by 211 acres water and 308 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 1
 State: Arkansas

TABLE VII
ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Total	Annual	Annual	Total
			Cost	Equivalent	Maintenance	Annual
			Installation	Cost	Cost	Cost
Zone	and land use	Area	2/	3/		
		Acres	Dollars	Dollars	Dollars	Dollars
A	1 - General crops	777	13,444	1,295	1,551	2,846
	2 - General crops	616	9,242	890	1,666	1,956
	2 - Pasture	39	363	35	8	43
	2SU - General crops	802	12,031	1,159	1,388	2,547
	2SU - Pasture	60	559	54	13	67
	Subtotal	2,294	35,639	3,433	4,026	7,459
B	1 - General crops	881	15,244	1,469	1,759	3,228
	2SU - General crops	359	5,386	519	621	1,140
	2SU - Pasture	27	251	24	6	30
	Subtotal	1,267	20,881	2,012	2,386	4,398
	TOTAL	3,561	56,520	5,445	6,412	11,857

- 1/ Does not include 10 percent "other" land
 2/ Included engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin:	St. Francis River
Project:	Ditch # 1
Reach:	1
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	15,450	0.20	3,090
Right-of-way easements	Acres	3	30.00	90
Crossings	Each	2	200.00	400
Swinging water gaps	Each	3	40.00	120
Pipe drop structures	Each	1	200.00	200
Flap gates	Each	1	100.00	100
Vegetative plantings	Acres	2	8.00	16
Total construction cost	xx	xx	xx	4,016
Engineering cost	xx	xx	xx	402
Contingencies and legal	xx	xx	xx	402
Total installation cost				4,820
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				262
Annual maintenance cost				201
Annual loss of production - right-of-way <u>2/</u>				14
Total annual cost of required group facilities				477

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 1 acre @ \$13.90 per acre.

Basin:	St. Francis River
Project:	Ditch # 1
Reach:	1
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	158,679	xx
2. Net return without project	122,038	xx
3. Gross benefit to project	36,641	29,046 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	5,445	xx
b. Maintenance cost	6,412	xx
c. Total	11,857	9,399
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	262	xx
b. Maintenance cost <u>1/</u>	215	xx
c. Total	477	396
6. Conversion cost	xx	xx <u>4/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

4/ No conversions, no table VI required.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 2
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map ping Unit	: Open (Acres)	: Wooded (Acres)	: Urban (Acres)	: Water (Acres)	: Total (Acres)
Zone A	1	54	-	-	-	54
	2	2,175	54	-	-	2,229
	3	4,675	98	-	-	4,773
	4	11	-	-	-	11
	11	1,435	-	-	-	1,435
Subtotal - all soils		8,350	152	-	-	8,502
Urban		-	-	-	-	-
Water		-	-	-	-	-
Total - Zone A		8,350	152	-	-	8,502
GRAND TOTAL - Reach 2		8,350	152	-	-	8,502

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	6,915			
	Crops	6,224		<u>3/</u>	
	Cotton	2,730	Lbs. Lint:	362	988,245
	Cottonseed	(2,730)	Ton	3258	889,42
	Corn	60	Bu.	41	2,460
	Soybeans	1,605	Bu.	21	33,472
	Oats (Grain)	893	Bu.	25	22,325
	Oats (Sup. Past.)	(446)	Lbs. Beef:	70	31,220
	Grain Sorghum	186	Bu.	20	3,774
	Perm. Pasture	459	Lbs. Beef:	171	78,385
	Idle	291			
	Other <u>1/</u>	691			
	Woodland	152	Acres		
	TOTAL	7,067 <u>4/</u>			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone A reduced by 1,435 acres not requiring drainage

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 2
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	1,258				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	1,132								
	Cotton	564	Lbs. lint	395 3/4	222,920	.25	55,730	103.75 1/4	58,513	9,857
	Cottonseed	(564)	Ton	.3557	200.63	63.00	12,640			
	Corn	11	Bu.	43	473	1.45	686	35.99	396	290
	Soybeans	265	Bu.	23	6,125	2.30	44,088	28.41	7,530	6,558
	Oats (Grain)	159	Bu.	29	4,682	.90	4,214	19.01	3,023	1,191
	Oats (Sup. Past.)	(79)	Lbs. Beef	95	7,525	.2005	1,509	8.08	638	871
	Grain Sorghum	23	Bu.	24	552	1.53	845	21.51	495	350
	Perm Pasture	68	Lbs. Beef	227	15,470	.2005	3,102	31.82	2,164	938
	Idle	42								
	Other 1/	126								
	Woodland	-	Acres							
	TOTAL	1,258 5/8					92,814		72,759	20,055

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 152 acres woodland not anticipated to be cleared, and 7,092 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return			
Unit : distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
ALL : Open Land	1,258									
: Crops	1,132									
: Cotton	564	Lbs.	555 3/4	313,280	.25	78,320	144.16 1/4	81,308	14,775	
: Cottonseed	(564)	Ton	.4999	281.95	63.00	17,763				
: Corn	11	Bu.	64	704	1.45	1,021	58.69	646	375	
: Soybeans	266	Bu.	27	7,182	2.30	16,519	31.16	8,288	8,231	
: Oats (Grain)	158	Bu.	45	7,084	.90	6,375	27.27	4,308	2,067	
: Oats (Sup.Past.)	(79)	Lbs.Beef	139	11,115	.2005	2,208	12.82	1,013	1,195	
: Grain Sorghum	23	Bu.	24	552	1.53	845	21.51	495	350	
: Perm. Pasture	68	Lbs.Beef	310	21,070	.2005	4,225	42.35	2,880	1,345	
: Idle	42									
: Other 1/	126									
: Woodland	-	Acres								
: TOTAL	1,258 5/					127,276		98,938	28,338	

1/ Farmssteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone A reduced by 152 acres woodland not anticipated to be cleared, and
 7,092 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 2
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Unit	Acres	Gross	Cost	Net	Gross	Cost	Net
			Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)		Difference in Net Production
2	408	32,158	25,753	6,405	52,367	41,789	10,578	4,173
3	850	60,656	47,006	13,650	74,909	57,149	17,760	4,110
TOTAL	1,258 <u>1/</u>	92,814	72,759	20,055	127,276	98,938	28,338	8,283

ZONE A - (not subject to flooding)

1/ Total area Zone A reduced by 152 acres woodland not anticipated to be cleared and 7,092 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 2
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation	Annual Equivalent Instl. Cost	Annual Maintenance Cost	Total Annual Cost
A	2 - General crops	345	5,175	499	597	1,096
	2 - Pasture	22	206	20	5	25
	3 - General crops	719	12,441	1,199	1,914	3,113
	3 - Pasture	46	428	41	33	74
	TOTAL	1,132 <u>3/</u>	18,250	1,759	2,549	4,308

- 1/ Includes engineering and contingency
2/ Amortized at 5 percent over 15 years
3/ Does not include 10 percent "other" land.

Basin: St. Francis River
 Project: Ditch # 1
 Reach: 2
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	28,338	xx
2. Net return without project	20,055	xx
3. Gross benefit to project	8,283	6,566 <u>1/</u>
4. Farm drainage cost	xx	xx <u>1/</u>
a. Installation cost	1,759	xx
b. Maintenance cost	2,549	xx
c. Total	4,308	3,415
5. Group drainage cost	xx	xx <u>2/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-

1/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

2/ No group drainage, no conversions; no tables VI and VIII required.

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	2,770	49	-	-	2,819
	3	4,915	73	-	-	4,988
	4	2,307	-	-	-	2,307
	11	154	-	-	-	154
Subtotal-all soils		10,146	122	-	-	10,268
Urban		-	-	260	-	260
Water		-	-	-	-	-
Total - Zone A		10,146	122	260	-	10,528
Zone B	1	12,598	768	-	-	13,366
	3	315	-	-	-	315
Subtotal-all soils		12,913	768	-	-	13,681
Urban		-	-	-	-	-
Water		-	-	-	111	111
Total - Zone B		12,913	768	-	111	13,792
GRAND TOTAL Project		23,059	890	260	111	24,320

Basin: St. Francis River
 Project: Ditch # 27
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil : Land use and crop	:	<u>2/</u>	:	Production	
Unit : distribution	:	Acres	:	Unit : Per Acre:	Total
All : Open land	:	9,992	:	:	:
: Crops	:	8,993	:	<u>3/</u>	:
: Cotton	:	3,389	: Lbs. Lint	322	1,090,035
: Cottonseed	:	(3,389)	: Ton	2895	981.03
: Corn	:	150	: Bu.	40	6,010
: Rice	:	50	: Cwt.	30	1,500
: Soybeans	:	2,554	: Bu.	20	51,721
: Oats (Grain)	:	1,837	: Bu.	23	43,096
: Oats (Sup. Past.)	:	(559)	: Lbs. Beef	70	39,130
: Grain Sorghum	:	65	: Bu.	19	1,256
: Perm. Pasture	:	566	: Lbs. Beef	171	96,630
: Idle	:	382	:	:	:
: Other <u>1/</u>	:	999	:	:	:
: Woodland	:	122	: Acres	:	:
: TOTAL	:	10,114	<u>4/</u>	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 260 acres urban and 154 acres lands not requiring drainage.

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit	distribution			Per Acre		Per Unit		Per Acre		
All	Open land	1,789								
	Crops	1,610		3/				4/		
	Cotton	1,023	Lbs. lint	360	368,495	.25	92,124	97.21	99,446	13,571
	Cottonseed	(1,023)	Ton	.3242	331.64	63.00	20,893			13,991
	Corn	37	Bu.	44	1,627	1.45	2,359	36.86	1,364	995
	Soybeans	104	Bu.	20	2,050	2.30	4,715	25.66	2,669	2,046
	Oats (Grain)	178	Bu.	27	4,862	.90	4,376	18.10	3,222	1,154
	Oats (Sup. Pect)	(126)	Lbs. Beef	105	13,230	.2005	2,653	9.13	1,150	1,503
	Perm. Pasture	233	Lbs. Beef	221	51,595	.2005	10,344	30.97	7,215	3,129
	Idle	35								
	Other	179								
	Woodland	-	Acres							
	TOTAL	1,789					137,464		115,066	22,398
										22,818

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Includes calculated negative net return
 6/ Adjusted to eliminate negative net return
 7/ Total area zone A reduced by 260 acres urban, 122 acres woodland not anticipated to be cleared, and 8,357 acres already drained, not needing drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution			Per Acre		Per Unit	Per Acre	Return		
All	Open land	1,789								
	Crops	1,610								
	Cotton	1,023	Lbs. Lint	515	527,585	.25	131,896	4	137,005	24,805
	Cottonseed	(1,023)	Ton	.4642	474.83	63.00	29,914			
	Corn	37	Bu.	60	2,204	1.45	3,196	51.19	1,894	1,302
	Soybeans	104	Bu.	25	2,636	2.30	6,063	30.04	3,124	2,939
	Oats (Grain)	178	Bu.	44	7,770	.90	6,993	26.57	4,730	2,263
	Oats (Sup. Past.)	(178)	Lbs. Beef	126	22,405	.2005	4,493	11.37	2,023	2,470
	Perm. Pasture	233	Lbs. Beef	313	72,885	.2005	14,613	42.72	9,954	4,659
	Idle	35								
	Other	179								
	Woodland	-	Acres							
	TOTAL	1,789					197,168		158,730	38,438

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 260 acres urban, 122 acres woodland not to be cleared, and 8,357 acres lands already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

TABLE II B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop :	<u>3/</u>	:	Production	
Unit :	distribution :	Acres :	Unit :	Per Acre:	Total
:	:	:	:	:	:
1 :	Open land :	12,913 :	:	:	:
:	Crops :	11,622 :	:	4/ :	:
:	Cotton :	4,300 :	Lbs.Lint:	215 :	924,500
:	Cottonseed :	(4,300) :	Ton :	.1935 :	832.05
:	Soybeans :	3,370 :	Bu. :	14 :	47,180
:	Oats (Grain) :	2,673 :	Bu. :	16 :	42,768
:	Perm. Pasture :	349 :	Lbs.Beef:	145 :	50,605
:	Idle :	930 :	:	:	:
:	Other <u>2/</u> :	1,291 :	:	:	:
:	Woodland :	768 :	Acres :	:	:
:	TOTAL :	13,681 <u>5/</u> :	:	:	:
:	:	:	:	:	:

- 1/ One soil only; no summary required
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages.
4/ 1.62 percent cropland drained.
5/ Total area zone B reduced by 111 acres water.

St. Francis River
Ditch # 21
Arkansas

TABLE III B 1/
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

[illegible]

TABLE IV B 1/
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

[illegible]

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
1	526	23,958	22,945	1,433	50,737	40,918	9,819	8,386
3	934	82,135	66,919	15,216	101,276	81,943	19,333	4,117
4	329	31,371	25,202	6,169	45,155	35,869	9,286	3,117
Subtotal:	1,789	137,464	115,066	22,818	197,168	158,730	38,438	15,620
1	13,489	1,096,518	898,424	198,094	1,268,746	1,048,615	220,131	22,037
Subtotal:	13,489	1,096,518	898,424	198,094	1,268,746	1,048,615	220,131	22,037
TOTAL:	15,278	1,233,982	1,013,490	220,912	1,465,914	1,207,345	258,569	37,657

- 1/ Total area zone A reduced by 260 acres urban, 122 acres woodland not anticipated to be cleared, and 8,357 acres already drained, not requiring drainage or not anticipated to be drained.
- 2/ Total area zone B reduced by 111 acres watered and 192 acres woodland not anticipated to be cleared.
- 3/ Adjusted to eliminate negative net return

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation <u>2/</u>	Annual Equivalent Instl. Cost <u>3/</u>	Annual Maintenance Cost	Total Annual Cost
		Acre	Dollars	Dollars	Dollars	Dollars
A	1 - General crops	402	6,956	670	803	1,473
	1 - Pasture	71	661	64	15	79
	3 - General crops	715	12,372	1,192	1,903	3,095
	3 - Pasture	126	1,172	113	90	203
	4 - General crops	260	3,458	333	399	732
	4 - Pasture	36	292	28	7	35
	Subtotal	1,610 <u>1/</u>	24,911	2,400	3,217	5,617
B	1 - General crops	2,299	39,780	3,832	4,590	8,422
	1 - Pasture	406	3,779	364	87	451
	Subtotal	2,705 <u>1/</u>	43,559	4,196	4,677	8,873
	TOTAL	4,315 <u>1/</u>	68,470	6,596	7,894	14,490

1/ Does not include 10 percent "other" land
2/ Includes engineering and contingency
3/ Amortized over 15 years at 5 percent

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	20,000	0.20	4,000
Right-of-way easements	-	-	-	-
Crossings	Each	4	200.00	800
Swinging water gaps	Each	4	40.00	160
Pipe drop structures	Each	3	200.00	600
Flap gates	-	-	-	-
Vetetative plantings	Acres	30	8.00	240
Total construction cost	xx	xx	xx	5,800
Engineering cost	xx	xx	xx	580
Contingencies and legal	xx	xx	xx	580
Total installation cost				6,960
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				378
Annual maintenance cost				290
Annual loss of production - right-of-way				-
Total annual cost of required group facilities				668

1/ These items included in excavation costs under normal contract procedures.

Basin: St. Francis River
 Project: Ditch # 21
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	:	(2)	:	(3)
Item	:	Total	:	Discounted
	:	Dollars	:	Amount
	:		:	Dollars
1. Net return with project	:	258,569	:	xx
2. Net return without project	:	220,912	:	xx
3. Gross benefit to project	:	37,657	:	29,851 <u>2/</u>
4. Farm drainage cost	:	xx	:	xx <u>2/</u>
a. Installation cost	:	6,596	:	xx
b. Maintenance cost	:	7,894	:	xx
c. Total	:	14,490	:	11,486
5. Group drainage cost	:	xx	:	xx <u>3/</u>
a. Installation cost	:	378	:	xx
b. Maintenance cost <u>1/</u>	:	290	:	xx
c. Total	:	668	:	555
6. Conversion cost	:	xx	:	xx <u>4/</u>
a. Installation cost	:	-	:	xx
b. Maintenance cost	:	-	:	xx
c. Total	:	-	:	-

- 1/ Includes loss of production, right-of-way
2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.
3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.
4/ No conversions; no table VI required

Basin: St. Francis River
 Project: Rivervale Culvert Relief Ditch
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map- Ping Unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	2SU	290	-	-	-	290
	3	11,856	-	-	-	11,856
	4SU	14	-	-	-	14
Subtotal - all soils		12,160	-	-	-	12,160
Urban		-	-	-	-	-
Watered		-	-	-	-	-
GRAND TOTAL - Project		12,160	-	-	-	12,160

Basin: St. Francis River
 Project: Rivervale Culvert Relief
 State: Arkansas

TABLE II A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	3/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
3	Open land	12,085			
	Crops	10,877			
	Cotton	6,853	Lbs.Lint	360	2,467,080
	Cottonseed	(6,853)	Ton	.3240	2,220.37
	Soybeans	1,523	Bu.	20	30,460
	Oats (Grain)	1,958	Bu.	25	48,950
	Oats (Sup. Past.)	(489)	Lbs.Beef	70	34,230
	Perm. Pasture	326	Lbs.Beef	180	58,680
	Idle	217			
	Other 2/	1,208			
	Woodland	-	Acres		
	TOTAL	12,085 4/			

- 1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ Total area zone A reduced by 75 acres already drained.

Basin: St. Francis River
 Project: Riverdale Culvert Relief
 State: Arkansas

TABLE III A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution			Per Acre			Per Unit	Per Acre	Return		
3 : Open land	4,109									
: Crops	3,698									
: Cotton	2,219	lbs. Lint	405		898,695	.25	224,674	105.94	235,081	40,549
: Cottonseed	(2,219)	Ton	.3645		808.83	63.00	50,956			
: Soybeans	555	Bu.	22		12,210	2.30	28,083	27.63	15,335	12,748
: Oats (Grain)	555	Bu.	30		16,650	.90	14,985	16.28	10,700	4,285
: Oats (Sup. Past.)	(139)	lbs. Beef	105		14,595	.2005	2,926	9.13	1,269	1,657
: Grain Sorghum	148	Bu.	24		3,552	1.53	5,435	21.51	3,183	2,252
: Perm. Pasture	111	lbs. Beef	255		28,305	.2005	5,675	35.63	3,955	1,720
: Idle	110									
: Other	411									
: Woodland	-	Acres								
: TOTAL	4,109 4/						332,734		269,523	63,211

- 1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ Total area zone A reduced by 8,051 acres already drained or not anticipated to be drained.

Basin: St. Francis River
 Project: Riverdale Culvert Relief
 State: Arkansas

TABLE IV A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop	Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit:	distribution			Per Acre		Per Unit		Per Acre		
3	Open land	4,109								
:	Crops	3,698								
:	Cotton	2,219	Lbs. lint	495	1,098,405	.25	274,601	129,278	286,850	50,030
:	Cottonseed	(2,219)	Ton	.4455	988.56	63.00	62,279			
:	Soybeans	555	Bu.	27	14,985	2.50	34,465	31.16	17,294	17,171
:	Oats (Grain)	555	Bu.	44	24,420	.90	21,978	26.75	14,846	7,132
:	Oats (Sup. Past.)	(139)	Lbs. Beef	145	20,155	.2005	4,041	13.42	1,865	2,176
:	Grain Sorghum	148	Bu.	24	3,552	1.53	5,435	21.51	3,183	2,252
:	Perm. Pasture	111	Lbs. Beef	305	33,855	.2005	6,788	41.76	4,635	2,153
:	Idle	110								
:	Other	411								
:	Woodland	-	Acres							
:	TOTAL	4,109					409,587		328,673	80,914

1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ Total area zone A reduced by 8,051 acres already drained or not anticipated to be drained.

Basin: St. Francis River
 Project: Riverdale Culvert Relief
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
Soil Unit	Acres	Gross	Future, without Project (Production in Dollars)	Cost	Net	Gross	Future With Project (Production in Dollars)	Cost	Net	Difference in Net Production
3	4,109	332,734	269,523	63,211	409,587	328,673	80,914	17,703		
TOTAL	4,109	332,734	269,523	63,211	409,587	328,673	80,914	17,703		

1/ Total area zone A reduced by 8,051 acres already drained or not anticipated to be drained.

Basin: St. Francis River
 Project: Rivervale Culvert Relief
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation <u>2/</u>	Annual Equivalent Instl. Cost <u>3/</u>	Annual Maintenance Cost	Total Annual Cost
A	3 - General crops	3,587	62,066	5,979	9,549	15,528
	3 - Pasture	111	1,033	100	79	179
	TOTAL	3,698 <u>1/</u>	63,099	6,079	9,628	15,707

- 1/ Does not include 10 percent "other" land
2/ Includes engineering and contingency
3/ Amortized over 15 years at 5 percent

Basin:	St. Francis River
Project:	Rivervale Culvert Relief
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	5,100	0.20	1,020
Right-of-way easements	Acres	3	30.00	90
Crossings	Each	1	300.00	300
Swinging water gaps	Each	1	40.00	40
Pipe drop structures	-	-	-	-
Flap gates	-	-	-	-
Vegetative plantings	Acres	1	8.00	8
Total construction cost	xx	xx	xx	1,458
Engineering cost	xx	xx	xx	146
Contingencies and legal	xx	xx	xx	146
Total installation cost				1,750
Annual equivalent - installation cost (amortized for 30 years at 3½ percent)				95
Annual maintenance cost				73
Annual loss of production - right-of-way ^{2/}				15
Total annual cost of required group facilities				183

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 1 acre @ \$15.38 per acre.

Basin: St. Francis River
 Project: Rivervale Culvert Relief
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	80,914	xx
2. Net return without project	63,211	xx
3. Gross benefit to project	17,703	14,033 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	6,079	xx
b. Maintenance cost	9,628	xx
c. Total	15,707	12,451
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	95	xx
b. Maintenance cost <u>1/</u>	88	xx
c. Total	183	152
6. Conversion cost	xx	xx <u>4/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

4/ No conversions; no table VI required.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	4	4,040	36	-	-	4,076
	11	1,882	-	-	-	1,882
	12	25,198	89	-	-	25,287
	16	1,873	-	-	-	1,873
Subtotal - all soils		32,993	125	-	-	33,118
Urban		-	-	151	-	151
Water		-	-	-	5	5
Total - Zone A		32,993	125	151	5	33,274
Zone B	1	2,693	-	-	-	2,693
	3	997	-	-	-	997
	4	17,794	1,766	-	-	19,560
	11	257	-	-	-	257
	12	3,086	-	-	-	3,086
Subtotal - all soils		24,827	1,766	-	-	26,593
Urban		-	-	-	-	-
Water		-	-	-	249	249
Total - Zone B		24,827	1,766	-	249	26,842
GRAND TOTAL - Reach 1		57,820	1,891	151	254	60,116

Basin:	St. Francis River
Project:	Buffalo Ditch
Reach:	1
State:	Arkansas

SUMMARY - TABLE II. A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop :	2/ Acres	Production		
Unit :	distribution :		Unit :	Per Acre:	Total
All :	Open land :	5,633			
	Crops :	5,070		3/	
	Cotton :	2,219	Lbs.Lint :	354	785,470
	Cottonseed :	(2,219)	Ton :	.3186	706.92
	Corn :	215	Bu. :	32	6,825
	Soybeans :	1,457	Bu. :	21	30,001
	Oats (Grain) :	437	Bu. :	28	12,051
	Oats (Sup.Past.) :	(70)	Lbs.Beef :	70	4,900
	Grain Sorghum :	140	Bu. :	20	2,800
	Perm. Pasture :	279	Lbs.Beef :	180	50,220
	Idle :	323			
	Other 1/ :	563			
	Woodland :	36	Acres :		
	TOTAL :	5,669 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone A reduced by 151 acres urban, 5 acres water and 27,449 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Unit	(2) Land use and crop distribution	(3) Acreage	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	1,029								
	Crops	926								
	Cotton	527	Lbs./lint	374	197,280	.25	49,320	100.43	52,926	7,579
	Cottonseed	(527)	Ton	.3369	177.56	63.00	11,185			
	Corn	53	Bu.	39	2,054	1.45	2,978	33.34	1,767	1,211
	Soybeans	210	Bu.	24	5,124	2.30	11,785	29.37	6,167	5,618
	Oats (Grain)	69	Bu.	28	1,940	.90	1,746	18.48	1,275	471
	Perm. Pasture	47	Lbs./Beef	221	10,405	.2005	2,087	31.32	1,472	615
	Idle	20								
	Other	103								
	Woodland	-								
	TOTAL	1,029	Acreage				79,101		63,607	15,494

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 151 acres urban, 5 acres water, 36 acres woodland not anticipated to be cleared, and 32,053 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acre	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit	distribution			Per Acre		Per Unit		Per Acre		
All	Open land	1,029								
	Crops	926		3/				4/		
	Cotton	527	Lbs. lint	607	319,820	25	79,955	157.17	82,831	15,258
	Cottonseed	(527)	Ton	5462	287,84	63.00	18,134			
	Corn	53	Bu.	65	3,449	1.45	5,001	59.62	3,160	1,841
	Soybeans	210	Bu.	27	5,745	2.30	13,214	31.70	6,657	6,557
	Oats (Grain)	69	Bu.	47	3,258	.90	2,932	28.77	1,985	947
	Perm. Pasture	47	Lbs. Beef	395	18,565	2005	3,722	52.78	2,480	1,242
	Idle	20								
	Other	103								
	Woodland	1								
	TOTAL	1,029	Acre				122,958		97,113	25,845

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 151 acres urban, 5 acres water, 36 acres woodland not anticipated to be cleared, and 32,053 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop :	<u>2/</u>	Production		
Unit :	distribution :	Acres :	Unit :	Per Acre :	Total
All :	Open land :	24,827 :			
	Crops :	22,345 :		<u>3/</u>	
	Cotton :	8,351 :	Lbs.Lint:	385 :	3,214,125
	Cottonseed :	(8,351) :	Ton :	.3464 :	2,892.71
	Corn :	1,134 :	Bu. :	34 :	38,757
	Soybeans :	9,598 :	Bu. :	23 :	223,991
	Oats (Grain) :	469 :	Bu. :	20 :	9,478
	Perm. Pasture :	607 :	Lbs.Beef:	183 :	110,835
	Idle :	2,186 :			
	Other <u>1/</u> :	2,482 :			
	Woodland :	<u>1,766</u> :	Acres :		
	TOTAL :	26,593 <u>4/</u> :			

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone B reduced by 249 acres water.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acre	(4) Unit	(5) Production	(6) Total	(7) Value of production	(8) Total	(9) Cost of production	(10) Total	(11) Net Return
				Per Acre		Per Unit		Per Acre		
All	Open land	25,887								
	Crops	23,299								
	Cotton	11,059	Lbs. lint	505	5,584,840	25	1,396,210	134.37	1,486,035	226,836
	Cottonseed	(11,059)	Ton	4545	5,026.36	63.00	316,661			
	Corn	1,173	Bu.	48	56,472	1.45	81,885	42.11	49,392	32,493
	Rice	73	Cwt.	33	2,409	3.75	9,034	106.67	7,787	1,247
	Soybeans	6,908	Bu.	27	186,335	2.30	428,570	31.47	217,372	211,198
	Oats (Grain)	1,633	Bu.	40	65,527	.90	58,975	24.59	40,159	18,816
	Oats (Sup. Past.)	(20)	Lbs. Beef	130	2,600	2005	521	11.83	237	284
	Grain Sorghum	509	Bu.	25	12,725	1.53	19,469	22.13	11,264	8,205
	Perm. Pasture	636	Lbs. Beef	304	193,245	2005	38,746	41.62	26,468	12,278
	Idle	1,308								
	Other	2,588								
	Woodland									
	TOTAL	25,887	Acre				2,350,071		1,838,714	511,357

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 249 acres water and 706 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

SUMMARY - IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	2/	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
Unit : distribution						Dollars	Dollars	Dollars	Dollars	Dollars
All : Open land		25,887								
: Crops		23,299								
: Cotton		12,218	Lbs. Lint	3/ 547	6,688,485	.25	1,672,121	4/ 143.65	1,755,082	296,277
: Cottonseed		(12,218)	Ton	.4927	6,019.64	63.00	379,238			
: Corn		1,182	Bu.	53	62,110	1.45	90,059	46.19	54,593	35,466
: Rice		73	Cwt.	34	2,482	3.75	9,307	108.92	7,951	1,356
: Soybeans		7,037	Bu.	27	189,883	2.30	436,731	31.47	221,431	215,300
: Oats (Grain)		897	Bu.	44	39,325	.90	35,393	26.80	24,039	11,354
: Grain Sorghum		509	Bu.	25	12,725	1.53	19,469	22.13	11,264	8,205
: Perm. Pasture		636	Lbs. Beef	343	218,150	.2005	43,739	46.42	29,523	14,216
: Idle		747								
: Other	1/	2,588								
: Woodland		-	Acres							
: TOTAL		25,887					2,686,057		2,103,883	582,174
		5/								

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 249 acres water and 706 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1) Soil Unit	(2) Acres	(3) Future Without Project (Production in Dollars)	(4) Cost	(5) Net	(6) Future With Project (Production in Dollars)	(7) Cost	(8) Net	(9) Difference in Net Production
4	679	62,304	48,346	13,958	84,541	66,051	18,490	4,632
16	350	16,797	15,261	1,536	38,417	31,062	7,355	5,819
Subtotal:	1,029	79,101	63,607	15,494	122,958	97,113	25,845	10,351
1	2,693	189,882	154,978	34,904	221,374	179,093	42,281	7,377
3	997	85,385	65,201	20,184	95,919	74,363	21,556	1,372
4	18,854	1,863,747	1,465,256	398,491	2,140,341	1,682,164	458,177	59,686
12	3,343	211,057	153,279	57,778	228,423	168,263	60,160	2,382
Subtotal:	25,887	2,350,071	1,838,714	511,357	2,686,057	2,103,883	582,174	70,817
TOTAL:	26,916	2,429,172	1,902,321	526,851	2,809,015	2,200,996	608,019	81,168
1/ Total area zone A reduced by 151 acres urban, 5 acres water, 36 acres woodland not anticipated to be cleared, and 32,053 acres already drained, not requiring drainage or not anticipated to be drained.								
2/ Total area zone B reduced by 249 acres water and 706 acres woodland not anticipated to be cleared.								

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 1
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation	Annual Equivalent Instl. Cost	Annual Maintenance	Total Annual Cost
		Acres	Dollars	Dollars	Dollars	Dollars
A	4 - General crops	580	7,713	743	890	1,633
	4 - Pasture	31	252	24	6	30
	16 - General crops	299	3,977	383	459	842
	16 - Pasture	16	130	13	3	16
	Subtotal	926 1/2	12,072	1,163	1,358	2,521
B	1 - General crops	313	5,416	522	625	1,147
	1 - Rice	10	86	8	3	11
	1 - Pasture	10	93	9	2	11
	3 - General crops	158	2,734	263	421	684
	3 - Pasture	10	93	9	7	16
	4 - General crops	4,768	63,410	6,109	7,317	13,426
	4 - Pasture	148	1,204	116	28	144
	Subtotal	5,417 1/2	73,036	7,036	8,403	15,439
	TOTAL	6,343 1/2	85,108	8,199	9,761	17,960

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin:	St. Francis River
Project:	Buffalo Ditch
Reach:	1
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	35,000	0.20	7,000
Right-of-way easements	Acres	11	30.00	330
Crossings	Each	4	300.00	1,200
Swinging water gaps	Each	4	40.00	160
Pipe drop structures	Each	2	200.00	400
Flap gates	Each	2	100.00	200
Vegetative plantings	Acres	22	8.00	176
Total construction cost	xx	xx	xx	9,466
Engineering cost	xx	xx	xx	947
Contingencies and legal	xx	xx	xx	947
Total installation cost				11,360
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				618
Annual maintenance cost				473
Annual loss of production - right-of-way ^{2/}				58
Total annual cost of required group facilities				1,149

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 3 acres @ \$19.25 per acre.

Basin:	St. Francis River
Project:	Buffalo Ditch
Reach:	1
State:	Arkansas

TABLE IX:
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	608,019	xx
2. Net return without project	526,851	xx
3. Gross benefit to project	81,168	64,343 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	8,199	xx
b. Maintenance cost	9,761	xx
c. Total	17,960	14,237
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	618	xx
b. Maintenance cost <u>1/</u>	531	xx
c. Total	1,149	954
6. Conversion cost	xx	xx <u>4/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-

1/ Includes loss of production, right-of-way.

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3 $\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

4/ No conversions; no table VI required

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	3	9	-	-	-	9
	4	15,982	98	-	-	16,080
	11	1,358	9	-	-	1,367
	12	1,199	-	-	-	1,199
	16	14,029	9	-	-	14,038
Subtotal - all soils		32,577	116	-	-	32,693
Urban		-	-	266	-	266
Water		-	-	-	9	9
Total - Zone A		32,577	116	266	9	32,968
Zone B	3	1,933	22	-	-	1,955
	4	4,399	23	-	-	4,422
	16	9	-	-	-	9
Subtotal - all soils		6,341	45	-	-	6,386
Urban		-	-	-	-	-
Water		-	-	-	84	84
Total - Zone B		6,341	45	-	84	6,470
GRAND TOTAL - Reach 2		38,918	161	266	93	39,438

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	29,380			
	Crops	26,442		<u>3/</u>	
	Cotton	10,101	Lbs.Lint:	330	3,335,780
	Cottonseed	(10,101)	Ton	.2972	3,002.20
	Corn	1,286	Bu.	28	36,312
	Soybeans	9,502	Bu.	20	187,368
	Oats (Grain)	3,913	Bu.	24	95,844
	Oats (Sup.Past.)	(170)	Lbs.Beef:	70	11,900
	Grain Sorghum	423	Bu.	20	8,460
	Perm. Pasture	423	Lbs.Beef:	180	76,140
	Idle	794			
	Other <u>1/</u>	2,938			
	Woodland	107	Acres		
	TOTAL	29,487 <u>4/</u>			

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area Zone A reduced by 266 acres urban, 9 acres water
 and 3,206 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	12,339								
	Crops	11,105								
	Cotton	6,286	Lbs. lint	349 ^{3/}	2,196,240	.25	549,060	95.22 ^{4/}	598,523	75,064
	Cottonseed	(6,286)	Ton	3144	1,976.62	63.00	124,527			
	Corn	437	Bu.	32	13,886	1.45	20,135	28.24	12,340	7,795
	Soybeans	2,939	Bu.	22	65,659	2.30	151,016	27.71	81,449	69,567
	Oats (Grain)	874	Bu.	26	22,658	.90	20,392	17.45	15,254	5,138
	Oats (Sup. Past.)	(178)	Lbs. Beef	105	18,690	.2005	3,747	9.13	1,625	2,122
	Perm. Pasture	296	Lbs. Beef	235	69,560	.2005	13,947	33.19	9,824	4,123
	Idle	273								
	Other ^{1/}	1,234								
	Woodland	-	Acres							
	TOTAL	12,339 ^{5/}					882,824		719,015	163,809

- ^{1/} Farmsteads, farm roads, waste and non-agricultural
- ^{2/} Parenthetical amounts are duplicated acreages
- ^{3/} Calculated from Columns 3 and 6; rounded to nearest unit
- ^{4/} Calculated from Columns 3 and 10; rounded to nearest cent
- ^{5/} Total area Zone A reduced by 266 acres urban, 9 acres water, 107 acres woodland not anticipated to be cleared, and 20,247 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acre	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	12,339								
	Crops	11,105								
	Cotton	6,286	Lbs. Lint	547 <u>3/</u>	3,437,670	.25	859,417	142.88	898,149	156,184
	Cottonseed	(6,286)	Ton	4922	3,093,90	63.00	194,916			
	Corn	437	Bu.	52	22,853	1.45	33,137	43.75	19,119	14,018
	Soybeans	2,939	Bu.	27	78,241	2.30	179,955	31.10	91,389	88,566
	Oats (Grain)	874	Bu.	46	40,592	.90	36,533	28.28	24,718	11,815
	Oats (Sup. Past.)	(180)	Lbs. Beef	160	28,800	.2005	5,774	15.04	2,707	3,067
	Perm. Pasture	296	Lbs. Beef	395	116,920	.2005	23,442	52.78	15,623	7,819
	Idle	273								
	Other <u>1/</u>	1,234								
	Woodland	-	Acre							
	TOTAL	12,339 <u>5/</u>					1,333,174		1,051,705	281,469

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area Zone A reduced by 266 acres urban, 9 acres water, 107 acres woodland not anticipated to be cleared, and 20,247 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop	2/	Production		
Unit :	distribution	Acres	Unit	Per Acre:	Total
All :	Open land	6,341			
:	Crops	5,707		3/	
:	Cotton	2,323	Lbs. Lint:	410	951,300
:	Cottonseed	(2,323)	Ton	.3685	856.17
:	Corn	281	Bu.	44	12,279
:	Soybeans	1,893	Bu.	24	45,305
:	Oats (Grain)	712	Bu.	34	23,973
:	Perm. Pasture	223	Lbs. Beef:	202	45,120
:	Idle	275			
:	Other 1/	634			
:	Woodland	45	Acres		
:	TOTAL	6,386 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone B reduced by 84 acres water.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	6,341								
	Crops	5,707								
	Cotton	2,818	Lbs. Lint	4.91	1,382,905	.25	345,726	4/129.16	363,981	60,156
	Cottonseed	(2,818)	Ton	44.17	1,244,62	63.00	78,411			
	Corn	229	Bu.	53	12,175	1.45	17,653			
	Soybeans	1,633	Bu.	27	44,747	2.30	102,918	46.40	10,626	7,027
	Oats (Grain)	435	Bu.	39	17,050	.90	15,345	31.74	51,831	51,087
	Oats (Sup. Past.)	(80)	Lbs. Beef	125	10,000	2.005	2,005	23.91	10,403	4,942
	Grain Sorghum	119	Bu.	25	2,975	1.53	4,552	11.28	902	1,103
	Perm. Pasture	223	Lbs. Beef	286	63,705	2.005	12,773	22.13	2,633	1,919
	Idle	250						39.40	8,786	3,987
	Other 1/	634								
	Woodland	-	Acres							
	TOTAL	6,341 5/					579,383		449,162	130,221

- 1/ Farmssteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 84 acres water and 45 acres woodland not anticipated to be cleared.

Basin: St. Francis River

Project: Buffalo Ditch

Reach: 2

State: Arkansas & Missouri

SUMMARY - TABLE IV B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS

COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION

PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT

(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acre	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open Land	6,341								
	Crops	5,707								
	Cotton	3,139	Lbs. Lint	553	1,735,830	.25	433,957	144.68	454,153	78,225
	Cottonseed	(3,139)	Ton	4977	1,562.24	63.00	98,421			
	Corn	246	Bu.	61	15,033	1.45	21,798	53.79	13,223	8,575
	Soybeans	1,651	Bu.	28	46,259	2.30	106,396	32.18	53,124	53,272
	Oats (Grain)	159	Bu.	47	7,473	.90	6,726	28.61	4,549	2,177
	Grain Sorghum	119	Bu.	25	2,975	1.53	4,552	22.13	2,633	1,919
	Perm. Pasture	223	Lbs. Beef	33	74,115	.2005	14,860	45.11	10,060	4,800
	Idle	170								
	Other	634								
	Woodland	-	Acre							
	TOTAL	6,341					686,710		537,742	148,968

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 84 acres water and 45 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Acres	Gross	Future Without Project (Production in Dollars)	Net	Gross	Future With Project (Production in Dollars)	Net	Difference in Net Production
Unit			Cost			Cost		
ZONE A - (not subject to flooding)								
4	6,586	607,837	469,578	138,259	759,262	594,702	164,560	26,301
16	5,753	274,987	249,437	25,550	573,912	457,003	116,909	91,359
Subtotal	12,339	882,824	719,015	163,809	1,333,174	1,051,705	281,469	117,660
ZONE B - (subject to flooding)								
3	1,933	160,575	122,562	38,013	186,140	144,312	41,828	3,815
4	4,408	418,808	326,600	92,208	500,570	393,430	107,140	14,932
Subtotal	6,341	579,383	449,162	130,221	686,710	537,742	148,968	18,747
TOTAL	18,680	1,462,207	1,168,177	294,030	2,019,884	1,589,447	430,437	136,407

1/ Total area Zone A reduced by 266 acres urban, 9 acres water, 107 acres woodland not anticipated to be cleared, and 20,247 acres already drained, not requiring drainage or not anticipated to be drained.
 2/ Total area Zone B reduced by 84 acres water and 45 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost		Annual		Annual		Total	
			Installation	1/	Equivalent	2/	Maintenance	Cost	Annual	Cost
			Dollars		Dollars		Dollars		Dollars	
A	4 - General crops	5,631	74,886		7,215		8,641		15,856	
	4 - Pasture	296	2,409		232		56		288	
	16 - General crops	5,178	68,862		6,634		7,946		14,580	
	Subtotal	11,105 3/	146,157		14,081		16,643		30,724	
	3 - General crops	644	11,143		1,074		1,714		2,788	
B	3 - Pasture	41	382		37		29		66	
	4 - General crops	1,681	22,356		2,154		2,580		4,734	
	4 - Pasture	52	424		41		10		51	
	Subtotal	2,418 3/	34,305		3,306		4,333		7,639	
	TOTAL	13,523 3/	180,462		17,387		20,976		38,363	

1/ Includes engineering and contingency
 2/ Amortized at 5 percent over 15 years
 3/ Does not include 10 percent "other" land.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	: Unit	: Amount	: Unit Cost	: Total Cost
			: Dollars	: Dollars
Excavation <u>1/</u>	:	:	:	:
Spreading spoil <u>1/</u>	:	:	:	:
Clearing right-of-way <u>1/</u>	: Cubic Yard	73,800	: 0.20	14,760
Right-of-way easements	: Acres	20	: 30.00	600
Crossings	: Each	8	: 300.00	2,400
Swinging water gaps	: Each	8	: 40.00	320
Pipe drop structures	: Each	4	: 200.00	800
Flap gates	: Each	4	: 100.00	400
Vegetative plantings	: Acres	40	: 8.00	320
Total construction cost	: xx	: xx	: xx	: 19,600
Engineering cost	: xx	: xx	: xx	: 1,960
Contingencies and legal	: xx	: xx	: xx	: 1,960
Total installation cost				: 23,520
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				: 1,279
Annual maintenance cost				: 980
Annual loss of production - right-of-way <u>2/</u>				: 79
Total annual cost of required group facilities				: 2,338

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 5 acres @ \$15.74 per acre.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	:	(2)	:	(3)
Item	:	Total	:	Discounted
	:	Dollars	:	amount
	:		:	Dollars
1. Net return with project	:	430,437	:	xx
2. Net return without project	:	294,030	:	xx
3. Gross benefit to project	:	136,407	:	108,131 <u>2/</u>
4. Farm drainage cost	:	xx	:	xx <u>2/</u>
a. Installation cost	:	17,387	:	xx
b. Maintenance cost	:	20,976	:	xx
c. Total	:	38,363	:	30,411
5. Group drainage cost	:	xx	:	xx <u>3/</u>
a. Installation cost	:	1,279	:	xx
b. Maintenance cost <u>1/</u>	:	1,059	:	xx
c. Total	:	2,338	:	1,941
6. Conversion cost	:	xx	:	xx <u>4/</u>
a. Installation cost	:	-	:	xx
b. Maintenance cost	:	-	:	xx
c. Total	:	-	:	-

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

4/ No conversions; no table VI required.

Basin:	St. Francis River
Project:	Buffalo Ditch
Reach:	3
State:	Arkansas-Missouri

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	3	7,289	107	-	-	7,396
	4	977	36	-	-	1,013
	11	13,398	-	-	-	13,398
	12	19,622	44	-	-	19,666
	12SU	2,655	9	-	-	2,664
	16	16,151	613	-	-	16,764
Subtotal - all soils		60,092	809	-	-	60,901
Urban		-	-	1,465	-	1,465
Water		-	-	-	-	-
Total - Zone A		60,092	809	1,465	-	62,366
Zone B	3	3,163	407	-	-	3,570
	4	1,097	136	-	-	1,233
	12	82	-	-	-	82
	16	1,795	104	-	-	1,899
Subtotal - all soils		6,137	647	-	-	6,784
Urban		-	-	-	-	-
Water		-	-	-	256	256
Total - Zone B		6,137	647	-	256	7,040
GRAND TOTAL Reach 3		66,229	1,456	1,465	256	69,406

Basin:	St. Francis River
Project:	Buffalo Ditch
Reach:	3
State:	Arkansas - Missouri

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop	<u>2/</u>		Production	
Unit :	distribution	Acres	Unit	Per Acre	Total
All :	Open land	24,417			
	Crops	21,975		<u>3/</u>	
	Cotton	7,656	Lbs. Lint	278	2,129,540
	Cottonseed	(7,656)	Ton	.2503	1,916.58
	Corn	3,464	Bu.	27	92,530
	Soybeans	7,061	Bu.	16	115,809
	Oats (Grain)	2,001	Bu.	20	40,551
	Perm. Pasture	872	Lbs. Beef	180	156,960
	Idle	921			
	Other <u>1/</u>	2,442			
	Woodland	756	Acres		
	TOTAL	25,173			
		<u>4/</u>			

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 1,465 acres urban and 35,728 acres
 already drained or not requiring drainage.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 3
 State: Arkansas - Missouri

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
All : Open land	14,210									
: Crops	12,789									
: Cotton	4,901	Lbs. Lint	297	3/	1,457,445	25	364,361	84.97	416,448	30,550
: Cottonseed	(4,901)	Ton	2676		1,311.70	63.00	82,637			
: Corn	2,015	Bu.	29		58,832	1.45	85,306	26.29	52,980	32,326
: Soybeans	4,115	Bu.	18		73,828	2.30	169,803	24.43	100,539	69,264
: Oats (Grain)	718	Bu.	24		17,120	.90	15,408	16.34	11,734	3,674
: Perm. Pasture	499	Lbs. Beef	195		97,305	2005	19,510	28.91	14,426	5,084
: Idle	541									
: Other 1/	1,421									
: Woodland		Acres								
: TOTAL	14,210	5/					737,025		596,127	140,898

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 1,465 acres urban, 756 acres woodland not anticipated to be cleared, and 45,935 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 3
 State: Arkansas-Missouri

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net Return
Unit	distribution			Per Acre		Per Unit		Per Acre		
All	Open land	14,210				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	12,789								
	Cotton	5,059	Lbs. Lint	3/518	2,618,205	.25	654,551	4/137.63	696,257	106,746
	Cottonseed	(5,059)	Ton	.4658	2,356.38	63.00	148,452			
	Corn	2,015	Bu.	50	101,064	1.45	146,543	41.86	84,350	62,193
	Soybeans	4,115	Bu.	25	103,752	2.30	238,629	29.98	123,358	115,271
	Oats (Grain)	718	Bu.	44	31,748	.90	28,574	26.42	18,971	9,603
	Oats (Sup. Past.)	(208)	Lbs. Beef	145	30,160	.2005	6,047	14.35	2,985	3,062
	Perm. Pasture	499	Lbs. Beef	395	197,105	.2005	39,520	55.38	27,635	11,885
	Idle	383								
	Other	1,421								
	Woodland	-	Acres							
	TOTAL	14,210	5/				1,262,316		953,556	308,760

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 1,465 acres urban, 756 acres woodland not anticipated to be cleared, and 45,935 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 3
 State: Arkansas-Missouri

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil:	Land use and crop	<u>2/</u>	Production		
Unit:	distribution	Acres	Unit	Per Acre	Total
All:	Open land	6,137			
	Crops	5,524		<u>3/</u>	
	Cotton	1,998	Lbs.Lint:	334	666,990
	Cottonseed	(1,998)	Ton	.3004	600.29
	Corn	821	Bu.	33	27,325
	Soybeans	1,862	Bu.	19	36,199
	Oats (Grain)	467	Bu.	24	11,389
	Perm. Pasture	97	Lbs.Beef:	180	17,460
	Idle	279			
	Other <u>1/</u>	613			
	Woodland	647	Acres		
	TOTAL	6,784			
		<u>4/</u>			

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone B reduced by 256 acres water.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 3
 State: Arkansas-Missouri

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production \$	Cost of production \$	Net	Return	
Unit: distribution						Per Unit	Total	Per Acre	Total	Dollars
All: Open land	6,340									
Crops	5,706		3/					4/		
Cotton	2,197	Lbs. Lint	396		870,905	.25	217,725	106.55	234,089	33,015
Cottonseed	(2,197)	Ton	3568		783,80	63.00	49,379			
Corn	850	Bu.	41		34,497	1.45	50,020	34.37	29,215	20,805
Soybeans	1,924	Bu.	23		43,604	2.30	100,289	28.19	54,231	46,058
Oats (Grain)	346	Bu.	32		11,007	.90	9,906	19.93	6,895	3,011
Perme. Pasture	97	Lbs. Beef	235		22,795	.2005	4,570	34.66	3,362	1,208
Idle	292									
Other	634									
Woodland		Acres								
TOTAL	6,340 5/						431,889		327,792	104,097

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 256 acres water and 444 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 3
 State: Arkansas-Missouri

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit: distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All: Open land	6,340									
Crops	5,706									
Cotton	2,319	Lbs. Lint	487	1,129,380	.25	282,345	128.93	298,999	47,382	
Cottonseed	(2,319)	Ton	4383	1,016.44	63.00	64,036				
Corn	850	Bu.	50	42,625	1.45	61,806	41.89	35,605	26,201	
Soybeans	1,924	Bu.	26	49,199	2.30	113,158	30.33	58,358	54,800	
Oats (Grain)	346	Bu.	41	14,342	.90	12,908	24.78	8,575	4,333	
Oats (Sup. Pasto.)	(40)	Lbs. Beef	115	4,600	2005	922	10.94	438	484	
Permo. Pasture	97	Lbs. Beef	355	34,435	2005	6,904	50.20	4,869	2,035	
Idle	170									
Other	634									
Woodland										
TOTAL	6,340	Acres				542,079		406,844	135,235	

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 256 acres water and 444 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 3
 State: Arkansas-Missouri

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Future Without Project (Production in Dollars)	Net	Gross	Future With Project (Production in Dollars)	Net	Difference in Net Production
3	4,374	290,495	217,281	73,214	384,349	285,147	99,202	25,988
4	586	49,366	36,545	12,821	59,855	45,277	14,578	1,757
16	9,250	397,164	342,301	54,863	818,112	623,132	194,980	140,117
Subtotal	14,210	737,025	596,127	140,898	1,262,316	953,556	308,760	167,862
3	3,366	235,210	174,819	60,391	283,256	210,300	72,956	12,565
4	1,179	103,631	77,128	26,503	116,216	88,199	28,017	1,514
16	1,795	93,048	75,845	17,203	142,607	108,345	34,262	17,059
Subtotal	6,340	431,889	327,792	104,097	542,079	406,844	135,235	31,138
TOTAL	20,550	1,168,914	923,919	244,995	1,804,395	1,360,400	443,995	199,000

- 1/ Total area zone A reduced by 1,465 acres urban, 756 acres woodland not anticipated to be cleared, and 45,935 acres already drained, not requiring drainage or not anticipated to be drained.
 2/ Total area zone B reduced by 256 acres water and 444 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Buffalo Ditch
 Reach: 3
 State: Arkansas-Missouri

TABLE VII
ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation $\frac{2}{3}$	Annual Equivalent Instl. Cost $\frac{3}{3}$	Annual Maintenance Cost	Total Annual Cost
A	3 - General crops	3,937	68,121	6,563	10,480	17,043
	4 - General crops	527	7,008	675	809	1,484
	16 - General crops	7,826	104,078	10,027	12,009	22,036
	16 - Pasture	499	4,061	391	94	485
	Subtotal	12,789 $\frac{1}{3}$	183,268	17,656	23,392	41,048
B	3 - General crops	1,818	31,458	3,031	4,840	7,871
	4 - General crops	636	8,458	815	976	1,791
	16 - General crops	911	12,116	1,167	1,398	2,565
	16 - Pasture	58	472	45	11	56
	Subtotal	3,423 $\frac{1}{3}$	52,504	5,058	7,225	12,283
	TOTAL	16,212 $\frac{1}{3}$	235,772	22,714	30,617	53,331

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin:	St. Francis River
Project:	Buffalo Ditch
Reach:	3
State:	Arkansas - Missouri

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	302,400	0.20	60,480
Right-of-way easements	Acres	110	30.00	3,300
Crossings	Each	20	400.00	8,000
Swinging water gaps	Each	20	50.00	1,000
Pipe drop structures	Each	8	200.00	1,600
Flap gates	Each	8	100.00	800
Vegetative plantings	Acres	156	8.00	1,248
Total construction cost	xx	xx	xx	76,428
Engineering cost	xx	xx	xx	7,643
Contingencies and legal	xx	xx	xx	7,643
Total installation cost				91,714
Annual equivalent - installation cost (amortized for 30 years at 3 $\frac{1}{2}$ percent)				4,986
Annual maintenance cost				3,821
Annual loss of production - right-of-way ^{2/}				322
Total annual cost of required group facilities				9,129

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 27 acres @ \$11.92 per acre .

Basin:	St. Francis River
Project:	Buffalo Ditch
Reach:	3
State:	Arkansas-Missouri

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	443,995	XX
2. Net return without project	244,995	XX
3. Gross benefit to project	199,000	123,623 2/
4. Farm drainage cost	XX	XX 2/
a. Installation cost	22,714	XX
b. Maintenance cost	30,617	XX
c. Total	53,331	33,130
5. Group drainage cost	XX	XX 3/
a. Installation cost	4,986	XX
b. Maintenance cost 1/	4,143	XX
c. Total	9,129	7,581
6. Conversion cost	XX	XX 4/
a. Installation cost	-	XX
b. Maintenance cost	-	XX
c. Total	-	-

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

4/ No conversions; no table VI required.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

TABLE L
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	3	3,328	18	-	-	3,346
	12	11,229	9	-	-	11,238
	16	10,713	9	-	-	10,722
Subtotal - all soils		25,270	36	-	-	25,306
Urban		-	-	249	-	249
Water		-	-	-	-	-
Total - Zone A		25,270	36	249	-	25,555
Zone B	3	669	122	-	-	791
	12	9	-	-	-	9
	16	455	-	-	-	455
Subtotal - all soils		1,133	122	-	-	1,255
Urban		-	-	-	-	-
Water		-	-	-	70	70
Total - Zone B		1,133	122	-	70	1,325
GRAND TOTAL - Project		26,403	158	249	70	26,880

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/ Acres	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	14,001			
	Crops	12,601			
	Cotton	4,344	Lbs. lint	262 3/	1,139,260
	Cottonseed	(4,344)	Ton	2360	1,025.33
	Corn	2,016	Bu.	25	50,479
	Soybeans	3,996	Bu.	16	62,052
	Oats (Grain)	1,171	Bu.	19	22,548
	Perm. Pasture	576	Lbs. Beef	180	103,680
	Idle	498			
	Other 1/	1,400			
	Woodland	27	Acres		
	TOTAL	14,028 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Total area Zone A reduced by 249 acres urban and 11,278 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
ALL	Open land	8,214				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	7,393								
	Cotton	2,833	Lbs. lint	275 ^{3/}	779,580	.25	194,895	79.90 ^{4/}	226,368	12,729
	Cottonseed	(2,833)	Ton	2477	701.62	63.00	44,202			
	Corn	1,182	Bu.	27	31,632	1.45	45,867	24.54	29,007	16,860
	Soybeans	2,343	Bu.	17	39,442	2.30	90,027	23.33	54,653	35,374
	Oats (Grain)	404	Bu.	22	8,974	.90	8,077	15.65	6,324	1,753
	Perm. Pasture	343	Lbs. Beef	195	66,885	.2005	13,410	28.30	9,707	3,703
	Idle	288								
	Other ^{1/}	821								
	Woodland	-	Acres							
	TOTAL	8,214 ^{5/}					396,478		326,059	70,419

- ^{1/} Farmsteads, farm roads, waste and non-agricultural
- ^{2/} Parenthetical amounts are duplicated acreages
- ^{3/} Calculated from Columns 3 and 6; rounded to nearest unit
- ^{4/} Calculated from Columns 3 and 10; rounded to nearest cent
- ^{5/} Total area Zone A reduced by 249 acres urban, 27 acres woodland not anticipated to be cleared, and 17,065 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Cost of production Per Acre	Net Return		
ALL	Open land	8,214				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	7,393								
	Cotton	2,900	Lbs. Lint	518 ^{3/}	1,502,370	.25	375,592	136.86 ^{4/}	48,592	35,459
	Cottonseed	(2,900)	Ton	4663	1,352,13	63.00	85,185		396,888	63,889
	Corn	1,182	Bu.	49	57,966	1.45	84,051			
	Soybeans	2,343	Bu.	25	57,945	2.30	133,273	41.11	48,215	35,458
	Oats (Grain)	404	Bu.	44	17,776	.90	15,999	29.54	69,714	5,285
	Oats (Sup. Past.)	(143)	Lbs. Beef	145	20,735	.2005	4,157	26.52	10,986	2,171
	Perm. Pasture	343	Lbs. Beef	395	135,485	.2005	27,165	13.89	1,986	8,616
	Idle	221						54.08	18,549	
	Other <u>1/</u>	821								
	Woodland	-	Acres							
	TOTAL	8,214 <u>5/</u>					725,422		545,944	179,478

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 249 acres urban, 27 acres woodland not anticipated to be cleared, and 17,065 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	1,133			
	Crops	1,020			
	Cotton	359	Lbs. Lint	318	114,035
	Cottonseed	(359)	Ton	.2859	102.63
	Corn	163	Bu.	32	5,247
	Soybeans	335	Bu.	18	6,125
	Oats (Grain)	84	Bu.	22	1,890
	Perm. Pasture	25	Lbs. Beef	180	4,500
	Idle	54			
	Other 1/	113			
	Woodland	122	Acres		
	TOTAL	1,255 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone B reduced by 70 acres water

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Cost of production	Cost of production	Net Return
Unit	distribution			Per Acre		Per Unit	Per Acre	Per Acre	Total	
All	Open Land	1,194								
	Crops	1,075								
	Cotton	400								
	Cottonseed	(400)								
	Corn	172	Bu.	39	6,744	1.45	9,779	33.42	5,749	4,030
	Soybeans	353	Bu.	21	7,339	2.30	16,880	26.63	9,400	7,480
	Oats (Grain)	67	Bu.	31	2,068	.90	1,862	19.57	1,311	551
	Perm. Pasture	25								
	Idle	58								
	Other	119								
	Woodland	-	Acres							
	TOTAL	1,194	5/				75,702		57,690	18,012

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone B reduced by 70 acres water and 61 acres woodland not anticipated to be cleared.

Basin: St, Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
ALL	Open land	1,194								
	Crops	1,075		3/				4/		
	Cotton	426	:lbs. lint	484	206,110	.25	51,527	127.12	54,152	9,061
	Cottonseed	(426)	Ton	4354	185,50	63.00	11,686			
	Corn	172	Bu.	50	8,618	1.45	12,496	42.00	7,224	5,272
	Soybeans	353	Bu.	25	8,788	2.30	20,212	29.65	10,467	9,745
	Oats (Grain)	67	Bu.	42	2,793	.90	2,514	25.12	1,683	831
	Oats (Sup. Past.)	(11)	:lbs. Beef	125	1,375	.2005	276	11.67	128	148
	Perm. Pasture	25	:lbs. Beef	370	9,250	.2005	1,855	50.94	1,273	582
	Idle	32								
	Other	119								
	Woodland	-	Acres							
	TOTAL	1,194	5/				100,566		74,927	25,639

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 70 acres water and 61 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Future Without Project (Production in Dollars)		Net	Future With Project (Production in Dollars)		Net	Difference in Net Production
		Gross	Cost		Gross	Cost		
ZONE A - (not subject to flooding)								
3	1,864	123,814	92,148	31,666	163,763	120,900	42,863	11,197
16	6,350	272,664	233,911	38,753	561,659	425,044	136,615	97,862
Subtotal	8,214	396,478	326,059	70,419	725,422	545,944	179,478	109,059
ZONE B - (subject to flooding)								
3	730	51,616	38,161	13,455	62,013	45,861	16,152	2,697
16	464	24,086	19,529	4,557	38,553	29,066	9,487	4,930
Subtotal	1,194	75,702	57,690	18,012	100,566	74,927	25,639	7,627
TOTAL	9,408	472,180	383,749	88,431	825,988	620,871	205,117	116,686

1/ Total area Zone A reduced by 249 acres urban, 27 acres woodland not anticipated to be cleared, and 17,065 acres already drained, not requiring drainage or not anticipated to be drained.
 2/ Total area Zone B reduced by 70 acres water and 61 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation Dollars	Annual Equivalent Cost 2/ Instl. Cost Dollars	Annual Maintenance Cost 3/ Dollars	Total Annual Cost Dollars
A	3 - General crops	1,678	29,034	2,797	4,467	7,264
	16 - General crops	5,372	71,443	6,883	8,243	15,126
	16 - Pasture	343	2,791	269	64	333
	Subtotal	7,393 <u>1/</u>	103,268	9,949	12,774	22,723
	3 - General crops	380	6,576	634	1,012	1,646
B	16 - General crops	267	3,550	342	410	752
	16 - Pasture	17	138	13	3	16
	Subtotal	664 <u>1/</u>	10,264	989	1,425	2,414
	TOTAL	8,057 <u>1/</u>	113,532	10,938	14,199	25,137

- 1/ Does not include 10 percent "other" land
2/ Includes engineering and contingency
3/ Amortized at 5 percent over 15 years.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			<u>Dollars</u>	<u>Dollars</u>
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	39,800	0.20	7,960
Right-of-way easements	Acres	13	30.00	390
Crossings	Each	4	300.00	1,200
Swinging water gaps	Each	4	40.00	160
Pipe drop structures	Each	3	200.00	600
Flap gates	Each	4	100.00	400
Vegetative plantings	Acres	26	8.00	208
Total construction cost	xx	xx	xx	10,918
Engineering cost	xx	xx	xx	1,092
Contingencies and legal	xx	xx	xx	1,092
Total installation cost				13,102
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				712
Annual maintenance cost				546
Annual loss of production, right-of-way <u>2/</u>				38
Total annual cost of required group facilities				1,296

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 4 acres @ \$9.40 per acre.

Basin: St. Francis River
 Project: Honey Cypress Ditch
 State: Arkansas & Missouri

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	205,117	xx
2. Net return without project	88,431	xx
3. Gross benefit to project	116,686	92,498 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	10,938	xx
b. Maintenance cost	14,199	xx
c. Total	25,137	19,926
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	712	xx
b. Maintenance cost <u>1/</u>	584	xx
c. Total	1,296	1,076
6. Conversion cost	xx	xx <u>4/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

4/ No conversions; no table VI required.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map: ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone B	:	:	:	:	:	:
	: 4	: 200	: -	: -	: -	: 200
	: 12	: 29	: -	: -	: -	: 29
	:	:	:	:	:	:
Subtotal - all soils	:	: 229	: -	: -	: -	: 229
Urban	:	: -	: -	: -	: -	: -
Water	:	: -	: -	: -	: -	: -
Total - Zone B	:	: 229	: -	: -	: -	: 229
	:	:	:	:	:	:
Zone C	: 1	: 22	: 45	: -	: -	: 67
	: 4	: 95	: -	: -	: -	: 95
	:	:	:	:	:	:
Subtotal - all soils	:	: 117	: 45	: -	: -	: 162
Urban	:	: -	: -	: -	: -	: -
Water	:	: -	: -	: -	: 19	: 19
Total - Zone C	:	: 117	: 45	: -	: 19	: 181
GRAND TOTAL - Reach 1	:	: 346	: 45	: -	: 19	: 410
	:	:	:	:	:	:

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE II B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil:	Land use and crop :	<u>3/</u>	Production		
Unit:	distribution :	Acres :	Unit :	Per Acre:	Total
4 :	Open land :	229 :	:	:	:
:	Crops :	206 :	:	:	:
:	Cotton :	66 :	Lbs. Lint:	405 :	26,730
:	Cottonseed :	(66) :	Ton :	.3645 :	24.06
:	Soybeans :	72 :	Bu. :	25 :	1,800
:	Oats (Grain) :	19 :	Bu. :	33 :	627
:	Grain Sorghum :	12 :	Bu. :	20 :	240
:	Perm. Pasture :	8 :	Lbs. Beef:	180 :	1,440
:	Idle :	29 :	:	:	:
:	Other <u>2/</u> :	23 :	:	:	:
:	Woodland :	- :	Acres :	:	:
:	TOTAL :	229 :	:	:	:
:	:	:	:	:	:

- 1/ One soil only; no summary required
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE III B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution						Per Unit	Per Acre	Total	Return	
						Dollars	Dollars	Dollars	Dollars	Dollars
4 : Open land	229			4/						
: Crops	206									
: Cotton	72	Lbs. Lint	465		33,480	25	8,370	120.77	8,695	1,573
: Cottonseed	(72)	Ton	4185		30,13	63.00	1,898			
: Corn	10	Bu.	49		490	1.45	710			296
: Soybeans	76	Bu.	29		2,204	2.30	5,069			2,556
: Grain Sorghum	21	Bu.	25		525	1.53	803			338
: Perm. Pasture	6	Lbs. Beef	265		1,590	2005	319	36.86	221	98
: Idle	21									
: Other	23									
: Woodland										
: TOTAL	229	Acres					17,169		12,308	4,861

1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ 20.09 percent cropland drained

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE IV B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
4	Open land	229								
	Crops	206		4/						
	Cotton	95	Lbs. Lint	540	51,300	.25	12,825	141.74	13,465	2,269
	Cottonseed	(95)	Ton	4860	46.17	63.00	2,909			
	Corn	10	Bu.	57	570	1.45	826	47.71	477	349
	Soybeans	83	Bu.	29	2,407	2.30	5,536	33.06	2,744	2,792
	Grain Sorghum	10	Bu.	25	250	1.53	382	22.13	221	161
	Idle	8								
	Other	23								
	Woodland	-								
	TOTAL	229	Acres				22,478		16,907	5,571

1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ 79.91 percent cropland drained

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE II C 1/
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION:
EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop			Production	
Unit	distribution	Acres	Unit	Per Acre	Total
4	Open land	117			
	Crops	105			
	Corn	21	Bu.	43	903
	Soybeans	42	Bu.	25	1,050
	Idle	42			
	Other <u>2/</u>	12			
	Woodland	22	Acres		
	TOTAL	139 <u>3/</u>			

1/ One soil only; no summary required

2/ Farm roads, waste and non-agricultural

3/ Total area zone C reduced by 19 acres water and 23 acres woodland not anticipated to be cleared

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE III C 1/2/
 ZONE OF NO PROJECT BENEFIT
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COST AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	:	:	Unit	Production	Total	Value of production: Per Unit	Cost of production: Per Acre	Net Return	:	:
Unit : distribution	:	Acres	:	Per Acre	:	Dollars	Dollars	Dollars	:	Dollars
4 : Open land	:	139	:	:	:	:	:	:	:	:
: Crops	:	125	:	:	:	:	:	:	:	:
: Corn	:	25	Bu.	46	1,150	1.45	1,667	38.64	966	701.33
: Soybeans	:	50	Bu.	29	1,450	2.30	3,335	33.06	1,653	1,682.33
: Idle	:	50	:	:	:	:	:	:	:	:
: Other	:	14	:	:	:	:	:	:	:	:
: <u>Woodland</u>	:	<u>-</u>	:	:	:	:	:	:	:	:
: TOTAL	:	139 4/	Acres	:	:	:	5,002	:	2,619	2,383

1/ Data same for "Future Without" and Future "With" conditions; no Table IV C required
 2/ One soil only; no summary required
 3/ Farm roads, waste and non-agricultural
 4/ Total area zone C reduced by 19 acres water and 23 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross (Future Without Project Production in Dollars)	Cost	Net	Gross (Future With Project Production in Dollars)	Cost	Net	Difference in Net Production
4	368	22,171	14,927	7,244	27,480	19,526	7,954	710
TOTAL	368	22,171	14,927	7,244	27,480	19,526	7,954	710

1/ Total area zones B and C reduced by 19 acres water and 23 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 1
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation <u>2/</u>	Annual Equivalent Instl. Cost	Annual Maintenance <u>3/</u> Cost	Total Annual Cost
B	4 - General crops	<u>123</u>	<u>1,636</u>	<u>158</u>	<u>189</u>	<u>347</u>
	TOTAL	<u>123 1/2</u>	<u>1,636</u>	<u>158</u>	<u>189</u>	<u>347</u>
<u>1/</u> Does not include 10 percent "other" land						
<u>2/</u> Includes engineering and contingency						
<u>3/</u> Amortized over 15 years at 5 percent						

Basin:	St. Francis River
Project:	Cockle Burr Slough Ditch
Reach:	1
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	7,954	xx
2. Net return without project	7,244	xx
3. Gross benefit to project	710	563 1/
4. Farm drainage cost	xx	xx 1/
a. Installation cost	158	xx
b. Maintenance cost	189	xx
c. Total	347	275
5. Group drainage cost	xx	xx 2/
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-
6. Conversion cost	xx	xx 2/
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-

- 1/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.
- 2/ No group drainage or conversions; no Tables VI and VIII required.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	3	4,470	207	-	-	4,677
	4	11,516	9	-	-	11,525
	11	532	9	-	-	541
	12	8,733	9	-	-	8,742
	16	19,222	36	-	-	19,258
Subtotal - all soils		44,473	270	-	-	44,743
Urban		-	-	261	-	261
Water		-	-	-	-	-
Total - Zone A		44,473	270	261	-	45,004
Zone B	4	1,750	7	-	-	1,757
	12	771	-	-	-	771
Subtotal - all soils		2,521	7	-	-	2,528
Urban		-	-	-	-	-
Water		-	-	-	58	58
Total - Zone B		2,521	7	-	58	2,586
GRAND TOTAL - Reach 2		46,994	277	261	58	47,590

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	34,838			
	Crops	31,354		3/	
	Cotton	11,547	Lbs. Lint	310	3,583,345
	Cottonseed	(11,547)	Ton	.2793	3,225.01
	Corn	2,952	Bu.	29	85,315
	Soybeans	10,805	Bu.	18	194,873
	Oats (Grain)	3,980	Bu.	23	90,205
	Oats (Sup. Past.)	(228)	Lbs. Beef	70	15,960
	Perm. Pasture	604	Lbs. Beef	180	108,720
	Idle	1,466			
	Other 1/	3,484			
	Woodland	252	Acres		
	TOTAL	35,090 4/			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone A reduced by 261 acres urban, and 9,653 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return		
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
ALL	Open land	20,222								
	Crops	18,200								
	Cotton	8,421	Lbs. lint	315	2,650,505	.25	662,626	4/	88.37	744,159
	Cottonseed	(8,421)	Ton	.2833	2,385.45	63.00	150,284			68,751
	Corn	1,648	Bu.	29	48,364	1.45	70,127			
	Soybeans	5,451	Bu.	19	105,390	2.30	242,396			
	Oats (Grain)	1,799	Bu.	25	44,996	.90	40,497			
	Oats (Sup. Past.)	(138)	Lbs. Beef	105	14,490	2005	2,905			
	Perm. Pasture	290	Lbs. Beef	235	68,150	2005	13,664			
	Idle	591								
	Other	2,022								
	Woodland	-	Acres							
	TOTAL	20,222					1,182,499			967,878
		5/								214,621

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone A reduced by 261 acres urban, 252 acres woodland not anticipated to be cleared, and 24,269 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net				
Unit : distribution	Acres	Unit	Per Acre	Total	Per Acre	Total	Per Acre	Total	Return	
ALL : Open land	20,222									
: Crops	18,200									
: Cotton	8,421	Lbs./Acre	554	4,664,075	25	1,166,019	147.08	1,238,576	191,896	
: Cottonseed	(8,421)	Ton	4985	4,197,67	63.00	264,453				
: Corn	1,648	Bu.	53	87,346	1.45	126,652	46.09			
: Soybeans	5,451	Bu.	26	139,595	2.30	321,071	30.30	165,152	155,919	
: Oats (Grain)	1,799	Bu.	46	82,348	.30	74,114	27.61	49,678	24,436	
: Oats (Sup. Past.)	(138)	Lbs./Acre	160	22,080	2005	4,427	15.55	2,146	2,281	
: Perm. Pasture	290	Lbs./Acre	395	114,550	2005	22,967	54.08	15,683	7,284	
: Idle	591									
: Other	2,022									
: Woodland	-	Acres								
: TOTAL	20,222					1,979,703		1,547,188	432,515	

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 261 acres urban 252 acres woodland not anticipated to be cleared, and 24,269 acres already drained, not requiring or not anticipated to be drained.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6) :
Soil :	Land use and crop :	<u>2/</u> :	Production		
Unit :	distribution :	Acres :	Unit :	Per Acre :	Total :
All :	Open land :	2,521 :	:	:	:
:	Crops :	2,269 :	:	<u>3/</u> :	:
:	Cotton :	835 :	Lbs. Lint :	391 :	326,865
:	Cottonseed :	(835) :	Ton :	.3523 :	294.17
:	Corn :	218 :	Bu. :	35 :	7,567
:	Soybeans :	712 :	Bu. :	23 :	16,552
:	Oats (Grain) :	312 :	Bu. :	32 :	9,879
:	Oats (Sup. Past.) :	(44) :	Lbs. Beef :	70 :	3,080
:	Perm. Pasture :	95 :	Lbs. Beef :	180 :	17,100
:	Idle :	97 :	:	:	:
:	Other <u>1/</u> :	252 :	:	:	:
:	Woodland :	7 :	Acres :	:	:
:	TOTAL :	2,528 <u>4/</u> :	:	:	:
:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area Zone B reduced by 58 acres water.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
ALL	Open land	2,521								
	Crops	2,269								
	Cotton	914	Lbs. lint	452 ^{3/}	413,050	.25	103,262	41/	119,08	108,837
	Cottonseed	(914)	Ton	4067	371,74	63.00	23,419			17,844
	Corn	183	Bu.	41	7,511	1.45	10,891			6,320
	Soybeans	719	Bu.	27	19,183	2.30	44,121			22,486
	Oats (Grain)	277	Bu.	37	10,387	.90	9,348			6,314
	Oats (Sup. Past.)	(44)	Lbs. Beef	120	5,280	.2005	1,059			489
	Perm. Pasture	95	Lbs. Beef	265	25,175	.2005	5,048			3,581
	Idle	81								
	Other <u>1/</u>	252								
	Woodland	-	Acres							
	TOTAL	2,521 <u>5/</u>					197,148			148,027
										49,121

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area Zone B reduced by 58 acres watered and 7 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Return
All	Open land	2,521								
	Crops	2,269		3/				4/		
	Cotton	914	Lbs. lint	525	479,650	25	119,912	139.76	127,737	19,370
	Cottonseed	(914)	Ton	4723	431.68	63.00	27,195			
	Corn	183	Bu.	46	8,380	1.45	12,151	38.66	7,075	5,076
	Soybeans	719	Bu.	27	19,183	2.30	44,121	31.27	22,486	21,635
	Oats (Grain)	277	Bu.	42	11,771	.90	10,594	25.78	7,141	3,453
	Oats (Sup. Past.)	(44)	Lbs. Beef	150	6,600	2005	1,323	14.45	636	687
	Perm. Pasture	95	Lbs. Beef	360	34,200	2005	6,857	49.69	4,721	2,136
	Idle	81								
	Other	252								
	Woodland	-	Acres							
	TOTAL	2,521	5/				222,153		169,796	52,357

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone B reduced by 58 acres watered and 7 acres woodland not anticipated to be cleared.

Basin: St, Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil		Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			Difference in Net Production
Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	
ZONE A - (not subject to flooding)								
3	2,562	188,693	145,602	43,091	233,359	177,393	55,966	12,875
4	5,370	446,794	338,357	108,437	574,811	441,647	133,164	24,727
16	12,290	547,012	483,919	63,093	1,171,533	928,148	243,385	180,292
Subtotal	20,222	1,182,499	967,878	214,621	1,979,703	1,547,188	432,515	217,894
ZONE B - (subject to flooding)								
4	1,750	153,877	117,500	36,377	178,882	139,269	39,613	3,236
12	771	43,271	30,527	12,744	43,271	30,527	12,744	-
Subtotal	2,521	197,148	148,027	49,121	222,153	169,796	52,357	3,236
TOTAL	22,743	1,379,647	1,115,905	263,742	2,201,856	1,716,984	484,872	221,130

1/ Total area Zone A reduced by 261 acres urban, 252 acres woodland not anticipated to be cleared, and 24,269 acres already drained, not requiring or not anticipated to be drained.
 2/ Total area Zone B reduced by 58 acres water and 7 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation <u>2/</u>	Annual Equivalent Cost <u>3/</u>	Annual Maintenance Cost	Total Annual Cost
			Dollars	Dollars	Dollars	Dollars
A	3 - General crops	2,306	39,901	3,844	6,139	9,983
	4 - General crops	4,543	60,417	5,821	6,971	12,792
	4 - Pasture	290	2,359	227	54	281
	16 - General crops	11,061	147,100	14,172	16,973	31,145
	Subtotal	18,200 <u>1/</u>	249,777	24,064	30,137	54,201
B	4 - General crops	888	11,809	1,138	1,363	2,501
	4 - Pasture	57	464	45	11	56
	Subtotal	945 <u>1/</u>	12,273	1,183	1,374	2,557
	TOTAL	19,145 <u>1/</u>	262,050	25,247	31,511	56,758

- 1/ Does not include 10 percent "other" land
2/ Includes engineering and contingency
3/ Amortized at 5 percent over 15 years.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	110,000	0.20	22,000
Right-of-way easements	Acres	43	30.00	1,290
Crossings	Each	10	400.00	4,000
Swinging water gaps	Each	5	50.00	250
Pipe drop structures	Each	10	200.00	2,000
Flap gates	Each	5	100.00	500
Vegetative plantings	Acres	88	8.00	704
Total construction cost	xx	xx	xx	30,744
Engineering cost	xx	xx	xx	3,074
Contingencies and legal	xx	xx	xx	3,074
Total installation cost				36,892
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				2,006
Annual maintenance cost				1,537
Annual loss of production - right-of-way <u>2/</u>				104
Total annual cost of required group facilities				3,647

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 9 acres @ \$11.60 per acre.

Basin: St. Francis River
 Project: Cockle Burr Slough Ditch
 Reach: 2
 State: Arkansas & Missouri

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	484,872	xx
2. Net return without project	263,742	xx
3. Gross benefit to project	221,130	137,370 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	25,247	xx
b. Maintenance cost	31,511	xx
c. Total	56,758	35,259
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	2,006	xx
b. Maintenance cost <u>1/</u>	1,641	xx
c. Total	3,647	3,028
6. Conversion cost	xx	xx <u>4/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

4/ No conversions; no table VI required.

Basin: St. Francis River
 Project: Tributaries of
 Cockle Burr Inlet
 State: Arkansas-Missouri

TABLE I
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Watered (Acres)	Urban (Acres)	Total (Acres)
Zone A	3	2,037	180	-	-	2,217
	4	5,432	370	-	-	5,802
	6	739	163	-	-	902
	11	387	-	-	-	387
	12	9,584	34	-	-	9,618
	16	980	43	-	-	1,023
Subtotal - all soils		19,159	790	-	-	19,949
Urban		-	-	249	-	249
Water		-	-	-	-	-
Total - Zone A		19,159	790	249	-	20,198
Zone B	1	101	7	-	-	108
	4	1,721	178	-	-	1,899
	6	25	-	-	-	25
	12	1,257	135	-	-	1,392
Subtotal - all soils		3,104	320	-	-	3,424
Urban		-	-	-	-	-
Water		-	-	-	58	58
Total - Zone B		3,104	320	-	58	3,482
GRAND TOTAL Project		22,263	1,110	249	58	23,680

Basin: St. Francis River
 Project: Tributaries of
Cockle Burr Inlet
 State: Arkansas-Missouri

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil :	Land use and crop	:	<u>2/</u>	:		:	Production	:	
Unit :	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:		:		:		:		:	
All :	Open land	:	9,038	:		:		:	
:	Crops	:	8,134	:		:	<u>3/</u>	:	
:	Cotton	:	3,251	:	Lbs.Lint	:	367	:	1,193,765
:	Cottonseed	:	(3,251)	:	Ton	:	.3305	:	1,074.39
:	Corn	:	303	:	Bu.	:	39	:	11,687
:	Soybeans	:	2,567	:	Bu.	:	21	:	54,475
:	Oats (Grain)	:	955	:	Bu.	:	28	:	26,710
:	Perm. Pasture	:	316	:	Lbs.Beef	:		:	
:	Idle	:	742	:		:		:	
:	Other <u>1/</u>	:	904	:		:		:	
:	Woodland	:	756	:	Acres	:		:	
:	TOTAL	:	<u>9,794</u>	:		:		:	
:		:	<u>4/</u>	:		:		:	

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages.
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone A reduced by 249 acres urban, and 10,155 acres
 already drained, not requiring drainage or not anticipated to
 be drained.

Basin: St. Francis River
 Project: Tributaries of
Cockle Burr Inlet
 State: Arkansas-Missouri

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acreage	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acreage	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	5,410								
	Crops	4,870		3/				4/		
	Cotton	2,159	Lbs. Lint	394	851,605	.25	212,901	104.45	225,501	35,686
	Cottonseed	(2,159)	Ton	.3550	766.45	63.00	48,286			
	Corn	224	Bu.	40	9,008	1.45	13,061	34.35	7,694	5,367
	Soybeans	1,292	Bu.	24	31,623	2.30	72,732	29.48	38,083	34,649
	Oats (Grain)	559	Bu.	30	16,755	.90	15,079	19.33	10,803	4,276
	Grain Sorghum	230	Bu.	24	5,547	1.53	8,487	21.58	4,964	3,523
	Perm. Pasture	193	Lbs. Beef	230	44,475	.2005	8,917	32.56	6,284	2,633
	Idle	213								
	Other	540								
	Woodland	-								
	TOTAL	5,410	Acreage				379,463		293,329	86,134

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 249 acres urban, 756 acres woodland not anticipated to be cleared, and 13,783 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Tributaries of
Cockle Burr Inlet
 State: Arkansas - Missouri

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	5,410								
	Crops	4,870		3/				4/		
	Cotton	2,316	Lbs. lint	591	1,369,110	.25	342,278	152.52	353,233	66,675
	Cottonseed	(2,316)	Ton	5320	1,232.21	63.00	77,630			
	Corn	181	Bu.	63	11,361	1.45	16,473	55.55	10,055	6,418
	Soybeans	1,292	Bu.	28	35,543	2.30	81,748	31.77	41,043	40,705
	Oats (Grain)	502	Bu.	46	23,282	.90	20,953	28.24	14,176	6,777
	Grain Sorghum	230	Bu.	25	5,662	1.53	8,663	21.89	5,035	3,628
	Perma. Pasture	193	Lbs. Beef	395	76,235	2005	15,285	52.78	10,186	5,099
	Idle	156								
	Other	540								
	Woodland	-	Acres							
	TOTAL	5,410 5/					563,030		433,728	129,302

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 249 acres urban, 756 acres woodland not anticipated to be cleared, and 13,783 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Tributaries of
Cockle Burr Inlet
 State: Arkansas-Missouri

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop:	<u>2/</u> :	Production		
Unit :	distribution :	Acres :	Unit :	Per Acre:	Total
:	:	:	:	:	:
All :	Open land :	3,194 :	:	:	:
:	Crops :	2,793 :	:	<u>3/</u> :	:
:	Cotton :	1,116 :	Lbs.Lint:	384 :	428,300
:	Cottonseed :	(1,116) :	Ton :	.3454 :	385.47
:	Corn :	157 :	Bu. :	33 :	5,172
:	Soybeans :	1,022 :	Bu. :	23 :	23,510
:	Oats (Grain) :	252 :	Bu. :	32 :	8,024
:	Perm. Pasture :	101 :	Lbs.Beef:	183 :	18,515
:	Idle :	145 :	:	:	:
:	Other <u>1/</u> :	311 :	:	:	:
:	Woodland :	320 :	Acres :	:	:
:	TOTAL :	<u>3,424</u> :	:	:	:
:	:	<u>4/</u> :	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Total area zone B reduced by 58 acres water.

Basin: St. Francis River
 Project: Tributaries of
Cockle Burr Inlet
 State: Arkansas-Missouri

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	3,327								
	Crops	2,994		3/						
	Cotton	1,201	Lbs. Lint	452	542,375	.25	135,594	4/	119.06	142,991
	Cottonseed	(1,201)	Ton	4064	488.14	65.00	30,752			23,355
	Corn	150	Bu.	45	6,763	1.45	9,807		38.58	5,787
	Soybeans	952	Bu.	27	25,418	2.30	58,461		31.22	29,725
	Oats (Grain)	271	Bu.	37	9,930	.50	8,937		22.51	6,099
	Grain Sorghum	211	Bu.	21	4,421	1.53	6,764		19.63	4,142
	Perm. Pasture	53	Lbs. Beef	280	14,840	.2005	2,975		38.71	2,052
	Idle	156								
	Other	333								
	Woodland									
	TOTAL	3,327	Acres				253,290		190,796	62,494

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 58 acres water and 97 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tributaries of
Cockle Burr Inlet
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit						Per Unit	Per Acre	Total	Return	
All	Open land	3,327								
	Crops	2,994								
	Cotton	1,201	Lbs.	3/	630,375	.25	157,594	4/	164,815	28,521
	Cottonseed	(1,201)	Ton	4724	567,34	63.00	35,742			
	Corn	150	Bu.	52	7,831	1.45	11,355	45.52	6,828	4,527
	Soybeans	899	Bu.	27	23,881	2.30	54,926	31.12	27,973	26,953
	Oats (Grain)	413	Bu.	42	17,227	.90	15,504	25.54	10,547	4,957
	Grain Sorghum	193	Bu.	21	3,971	1.53	6,076	19.39	3,743	2,333
	Idle	138								
	Other	333								
	Woodland		Acres							
	Total	3,327 5/					281,197		213,906	67,291

1 Farmsteads, farm roads, waste and non-agricultural
 2 Parenthetical amounts are duplicated acreages.
 3 Calculated from Columns 3 and 6; rounded to nearest unit
 4 Calculated from Columns 3 and 10; rounded to nearest cent
 5 Total area zone B reduced by 58 acres water and 97 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tributaries of
 Cockle Burr Inlet
 State: Arkansas-Missouri

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
						</		

- 1/ Total area zone A reduced by 249 acres urban, 756 acres woodland not anticipated to be cleared, and 13,783 acres already drained, not requiring or not anticipated to be drained.
- 2/ Total area zone B reduced by 58 acres water and 97 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Tributaries of
 Cockle Burr Inlet
 State: Arkansas-Missouri

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	XX	-	-	XX
W to IC	XX	-	-	XX
W to P	XX	-	XX	XX
P to GC	XX	XX	15.00	XX
P to IC	XX	XX	-	XX
GC to IC	XX	XX	XX	XX
GC to P	XX	XX	XX	XX
Project				
W to GC	-	-	-	-
W to IC	-	-	-	-
W to P	-	-	XX	-
P to GC	53	XX	795	795
P to IC	-	XX	-	-
GC to IC	-	XX	XX	-
GC to P	-	XX	XX	-
Total project	XX	-	795	795
Annual amortized value 2/	XX	XX	XX	44
Total annual cost of conversions	XX	XX	XX	44

1/ W- woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P- pasture

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Tributaries of
 Cockle Burr Inlet
 State: Arkansas-- Missouri

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost Installation 1/ Instl. Cost 2/ Cost	Annual Equivalent Cost 2/ Cost	Annual Maintenance Cost	Total Annual Cost
		Acres	Dollars	Dollars	Dollars	Dollars
A	3 - General crops	1,082	18,721	1,804	2,880	4,684
	4 - General crops	2,676	35,587	3,428	4,106	7,534
	4 - Pasture	171	1,391	134	32	166
	6 - General crops	382	5,368	517	826	1,343
	16 - General crops	537	7,142	688	824	1,512
	16 - Pasture	22	180	17	4	21
	Subtotal	4,870 1/2	68,339	6,588	8,672	15,260
	4 - General crops	962	12,793	1,232	1,476	2,708
	Subtotal	962 1/2	12,793	1,232	1,476	2,708
	TOTAL	5,832 1/2	81,182	7,820	10,148	17,968

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin:	St. Francis River
Project:	Tributaries of
	Cockle Burr Inlet
State:	Arkansas-Missouri

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	54,200	0.20	10,840
Right-of-way easements	Acres	38	30.00	1,140
Crossings	Each	5	300.00	1,500
Swinging water gaps	Each	4	40.00	160
Pipe drop structures	Each	5	200.00	1,000
Flap gates	Each	4	100.00	400
Vegetative plantings	Acres	86	8.00	688
Total construction cost	xx	xx	xx	15,728
Engineering cost	xx	xx	xx	1,573
Contingencies and legal	xx	xx	xx	1,573
Total installation cost				18,874
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				1,026
Annual maintenance cost				786
Annual loss of production - right-of-way ^{2/}				136
Total annual cost of required group facilities				1,948

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 8 acres @ \$17.01 per acre.

Basin: St. Francis River
 Project: Tributaries of
 Cockle Burr Inlet
 State: Arkansas-Missouri

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	196,593	xx
2. Net return without project	148,628	xx
3. Gross benefit to project	47,965	38,022 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	7,820	xx
b. Maintenance cost	10,148	xx
c. Total	17,968	14,243
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	1,026	xx
b. Maintenance cost <u>1/</u>	922	xx
c. Total	1,948	1,618
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	44	xx
b. Maintenance cost	-	xx
c. Total	44	35

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: St. Francis River

Project: Ditch # 10

State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	1	2,912	219	-	-	3,131
	4	53,498	4,741	-	-	58,239
	7	378	10	-	-	388
	9	1,481	219	-	-	1,700
	10	22,147	4,890	-	-	27,037
	11	2,107	-	-	-	2,107
	12	537	10	-	-	547
	15S	10,945	3,131	-	-	14,076
Subtotal - all soils		94,005	13,220	-	-	107,225
Urban		-	-	1,043	-	1,043
Water		-	-	-	-	-
Total - Zone A		94,005	13,220	1,043	-	108,268
Zone B	1	5,799	352	-	-	6,151
	4	31,240	1,495	-	-	32,735
	10	40	36	-	-	76
	11	982	12	-	-	994
Subtotal - all soils		38,061	1,895	-	-	39,956
Urban		-	-	-	-	-
Water		-	-	-	256	256
Total - Zone B		38,061	1,895	-	256	40,212
GRAND TOTAL - Project		132,066	15,115	1,043	256	148,480

Basin: St. Francis River

Project: Ditch # 10

State: Arkansas

SUMMARY -- TABLE II A
ZONE FOR DRAINAGE CALCULATIONS ONLY
COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop	2/ :	Production		
Unit :	distribution	Acres	Unit	Per Acre	Total
All :	Open land	71,852	:	:	:
:	Crops	64,667	:	3/ :	:
:	Cotton	27,859	Lbs.Lint	366	10,202,040
:	Cottonseed	(27,859)	Ton	.3296	9,181.83
:	Soybeans	14,308	Bu.	22	313,617
:	Oats (Grain)	5,888	Bu.	29	168,456
:	Oats (Sup. Past.)	(2,810)	Lbs.Beef	66	184,970
:	Grain Sorghum	1,597	Bu.	19	30,800
:	Perm. Pasture	6,836	Lbs.Beef	180	1,230,480
:	Idle	8,179	:	:	:
:	Other 1/	7,185	:	:	:
:	Woodland	10,079	Acres	:	:
:	TOTAL	81,931 4/ :	:	:	:

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone A reduced by 1,043 acres urban and 25,294 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Ditch # 10
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acreage	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	45,642								
	Crops	41,078		3/				4/		
	Cotton	19,505	Lbs. Lint.	400	7,809,860	.25	1,952,465	105.82	2,064,006	331,279 5/
	Cottonseed	(19,505)	Ton	.364	7,028.87	63.00	442,820	38.24		332,132 6/
	Corn	845	Bu.	46	38,454	1.45	55,758	87.64		32,316
	Rice	575	Cwt.	25	14,375	3.75	53,906	29.23		50,393
	Soybeans	6,942	Bu.	24	168,390	2.30	387,297	18.05		202,943
	Oats (Grain)	3,273	Bu.	27	89,004	.90	80,104	6.15		59,088
	Oats (Sup. Past.)	(1,564)	Lbs. Beef	77	120,855	2005	24,232	20.09		9,614
	Grain Sorghum	2,930	Bu.	22	63,607	1.53	97,318	30.53		58,878
	Perm. Pasture	4,537	Lbs. Beef	216	980,095	2005	196,509			138,495
	Idle	2,471								
	Other 1/	4,564								
	Woodland	3,447	Acreage			4.39	15,132	2.62		
	TOTAL	49,089 7/					3,305,541		9,031	6,101
									2,624,764	680,775 5/
										681,630 6/

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Includes calculated negative net return
- 6/ Adjusted to eliminate negative net return
- 7/ Total area Zone A reduced by 1,043 acres urban, 6,632 acres woodland not anticipated to be cleared, and 51,504 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: Sto. Francis River
 Project: Ditch # 10
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION
 OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return		
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	49,089								
	Crops	44,180								
	Cotton	20,955	Lbs. lint	619 <u>3/</u>	12,981,205	.25	3,245,302	158.24 <u>4/</u>	3,316,009	665,328
	Cottonseed	(20,955)	Ton	5575	11,683.09	63.00	736,035			
	Corn	918	Bu.	59	53,734	1.45	77,914	48.63	44,639	33,275
	Rice	653	Cwt.	35	22,855	3.75	85,706	111.17	72,594	13,112
	Soybeans	7,388	Bu.	26	193,115	2.30	444,165	30.90	228,309	215,856
	Oats (Grain)	3,594	Bu.	42	150,095	.90	135,085	25.59	91,972	43,113
	Oats (Sup. Past.)	(1,765)	Lbs. Beef	118	208,855	.2005	41,875	10.56	18,645	23,230
	Grain Sorghum	3,093	Bu.	22	67,641	1.53	103,491	20.19	62,460	41,031
	Perm. Pasture	4,962	Lbs. Beef	371	1,842,125	.2005	369,346	49.87	247,473	121,873
	Idle	2,617								
	Other <u>1/</u>	4,909								
	Woodland	-	Acres							
	TOTAL	49,089 <u>5/</u>					5,238,919		4,082,101	1,156,818

1/ Farmsteads, farm roads, waste and non-agricultural
2/ Parenthetical amounts are duplicated acreages
3/ Calculated from Columns 3 and 6; rounded to nearest unit
4/ Calculated from Columns 3 and 10; rounded to nearest cent
5/ Total area Zone A reduced by 1,043 acres urban, 6,632 acres woodland not anticipated to be cleared, and 51,504 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River

Project: Ditch # 10

State: Arkansas

SUMMARY - TABLE II B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS

COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	38,061			
	Crops	34,255		3/	
	Cotton	14,233	Lbs. Lint	395	5,623,500
	Cottonseed	(14,233)	Ton	3556	5,061.14
	Corn	1,108	Bu.	44	61,952
	Rice	158	Cwt.	30	4,740
	Soybeans	9,627	Bu.	23	225,005
	Oats (Grain)	2,121	Bu.	30	62,626
	Oats (Sup. Past.)	(701)	Lbs. Beef	80	56,080
	Grain Sorghum	1,228	Bu.	20	24,254
	Perm. Pasture	845	Lbs. Beef	195	164,775
	Idle	4,635			
	Other 1/	3,806			
	Woodland	1,895	Acres		
	TOTAL	39,956.4/			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone B reduced by 256 acres water.

Basin: Sto Francis River
 Project: Ditch # 10
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
ALL : Open land	38,638									
: Crops	34,775									
: Cotton	17,229	Lbs. lint	475	8,177,410	25	2,044,352	125.87	2,168,701	339,310	
: Cottonseed	(17,229)	Ton	4272	7,359,67	63.00	463,659	43.06	53,785	35,471	
: Corn	1,249	Bu.	49	61,556	1.45	89,256	104.43	16,604	2,476	
: Rice	159	Cwt.	32	5,088	3.75	19,080	32.00	234,846	231,746	
: Soybeans	7,340	Bu.	28	202,866	2.30	466,592	22.46	60,240	27,323	
: Oats (Grain)	2,682	Bu.	36	97,292	.90	87,563	11.28	5,640	6,891	
: Oats (Sup. Past.)	(500)	Lbs. Beef	125	62,500	2005	12,531	21.37	24,036	16,865	
: Grain Sorghum	1,125	Bu.	24	26,733	1.53	40,901	37.50	38,101	17,086	
: Perm. Pasture	1,016	Lbs. Beef	271	275,250	2005	55,187				
: Idle	3,975									
: Other	3,863									
: Woodland	952	Acres			3.88	3,694	2.30	2,189	1,505	
TOTAL	39,590					3,282,815		2,604,142	678,673	

- 1/ Farmsteads, farm roads, etc. and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 256 acres water and 366 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 10
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acreage	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	39,590								
	Crops	35,632		3/				4/		
	Cotton	19,442	Lbs. Lint	622	12,092,840	.25	3,023,210	161.58	3,141,460	567,413
	Cottonseed	(19,442)	Ton	5598	10,883,55	63.00	685,663			
	Corn	1,336	Bu.	62	82,436	1.45	119,532	55.27	73,836	45,696
	Rice	164	Cwt.	34	5,576	3.75	20,910	108.92	17,863	3,047
	Soybeans	8,325	Bu.	28	234,001	2.30	538,202	32.37	269,508	268,694
	Oats (Grain)	2,639	Bu.	45	120,000	.90	108,000	27.76	73,249	34,751
	Oats (Sup. Past.)	(648)	Lbs. Beef	135	87,520	.2005	17,548	12.36	8,007	9,541
	Grain Sorghum	1,389	Bu.	25	34,291	1.53	52,465	21.94	30,472	21,993
	Perm. Pasture	1,041	Lbs. Beef	354	368,055	.2005	73,795	47.71	49,671	24,124
	Idle	1,296								
	Other	3,958								
	Woodland		Acreage							
	TOTAL	39,590					4,639,325		3,664,066	975,259

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 256 acres water and 366 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 10
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Acres	Future Without Project (Production in Dollars)	Cost	Net	Future With Project (Production in Dollars)	Cost	Net	Difference in Net Production
Unit		Gross			Gross			
ZONE A - (not subject to flooding)								
1	1,718	60,434	54,036	7,251 1/2	160,036	132,187	27,849	20,598 1/2
4	31,839	2,635,780	2,059,597	576,183	4,031,558	3,137,054	894,504	318,321
9	1,015	66,362	53,996	12,366	100,244	83,981	16,263	3,897
10	14,517	542,965	457,135	85,830	947,081	728,879	218,202	132,372
Subtotal	49,089 2/3	3,305,541	2,624,764	681,630	5,238,919	4,082,101	1,156,818	475,188
ZONE B - (subject to flooding)								
1	6,053	309,605	267,320	42,285	551,653	464,539	87,114	44,829
4	32,543	2,842,970	2,232,211	610,759	3,957,432	3,094,916	862,516	251,757
11	994	130,240	104,611	25,629	130,240	104,611	25,629	-
Subtotal	39,590 3/4	3,282,815	2,604,142	678,673	4,639,325	3,664,066	975,259	296,586
TOTAL	88,679	6,588,356	5,228,906	1,360,303	9,878,244	7,746,167	2,132,077	771,774

- 1/ Adjusted to eliminate negative net return
 2/ Total area Zone A reduced by 1,043 acres urban, 6,632 acres woodland not anticipated to be cleared, and 51,504 acres already drained, not requiring drainage or not anticipated to be drained.
 3/ Total area Zone B reduced by 256 acres water and 366 acres woodland not anticipated to be cleared.

Basin: St. Francis River

Project: Ditch # 10

State: Arkansas

TABLE VI
LAND CONVERSION WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total	Cost of	Cost of	Total
	Amount	Clearing	Smoothing	Cost
	Acres	Dollars	Dollars	Dollars
<u>Per Acre</u>				
W to GC	xx	60	15	xx
W to IC	xx	60	15	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	3,866	231,960	57,990	289,950
W to IC	83	4,980	1,245	6,225
W to P	450	27,000	xx	27,000
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	263,940	59,235	323,175
Annual amortized value <u>2/</u>	xx	xx	xx	17,704
Total annual cost of conversions	xx	xx	xx	17,704

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Ditch # 10
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area	Total Cost Installation	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
		Acre	Dollars	Dollars	Dollars	Dollars
A	1 - General crops	1,500	25,954	2,500	2,995	5,495
	1 - Pasture	46	428	41	10	51
	4 - General crops	25,790	342,981	33,043	39,575	72,618
	4 - Pasture	2,865	23,315	2,246	538	2,784
	9 - General crops	823	10,945	1,054	1,263	2,317
	9 - Pasture	91	741	71	17	88
	10 - General crops	10,452	139,001	13,391	16,039	29,430
	10 - Rice	653	5,425	523	209	732
	10 - Pasture	1,960	16,281	1,569	626	2,195
	Subtotal	44,180 <u>1/</u>	565,071	54,438	61,272	115,710
B	1 - General crops	2,852	49,348	4,754	5,694	10,448
	1 - Rice	92	794	76	31	107
	1 - Pasture	91	847	82	20	102
	4 - General crops	15,856	210,869	20,315	24,331	44,646
	4 - Pasture	489	3,979	383	92	475
	Subtotal	19,380 <u>1/</u>	265,837	25,610	30,168	55,778
	TOTAL	63,560 <u>1/</u>	830,908	80,048	91,440	171,488

- 1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized at 5 percent over 15 years.

Basin: St. Francis River

Project: Ditch # 10

State: Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	346,000	0.20	69,200
Right-of-way easements	Acres	27	30.00	810
Crossings	Each	30	400.00	12,000
Swinging water gaps	Each	20	50.00	1,000
Pipe drop structures	Each	15	200.00	3,000
Flap gates	Each	10	100.00	1,000
Vegetative plantings	Acres	22	8.00	176
Total construction cost	xx	xx	xx	87,186
Engineering cost	xx	xx	xx	8,719
Contingencies and legal	xx	xx	xx	8,719
Total installation cost				104,624
Annual equivalent - installation cost (amortized for 30 years at 3½ percent)				5,688
Annual maintenance cost				4,359
Annual loss of production - right-of-way ^{2/}				138
Total annual cost of required group facilities				10,185

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 9 acres @ \$15.34 per acre.

Basin: St. Francis River

Project: Ditch # 10

State: Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	:	(2)	:	(3)
Item	:	Total	:	Discounted
	:	Dollars	:	Amount
	:		:	Dollars
1. Net return with project	:	2,132,077	:	xx
2. Net return without project	:	1,360,303	:	xx
3. Gross benefit to project	:	771,774	:	479,441 <u>2/</u>
	:		:	
4. Farm drainage cost	:	xx	:	xx <u>2/</u>
a. Installation cost	:	80,048	:	xx
b. Maintenance cost	:	91,440	:	xx
c. Total	:	171,488	:	106,532
	:		:	
5. Group drainage cost	:	xx	:	xx <u>3/</u>
a. Installation cost	:	5,688	:	xx
b. Maintenance cost <u>1/</u>	:	4,497	:	xx
c. Total	:	10,185	:	8,458
	:		:	
6. Conversion cost	:	xx	:	xx <u>2/</u>
a. Installation cost	:	17,704	:	xx
b. Maintenance cost	:	-	:	xx
c. Total	:	17,704	:	10,998
	:		:	

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	4	102	-	-	-	102
Subtotal - all soils		102	-	-	-	102
Urban		-	-	-	-	-
Water		-	-	-	-	-
Total - Zone A		102	-	-	-	102
Zone B	4	9,891	922	-	-	10,813
Subtotal - all soils		9,891	922	-	-	10,813
Urban		-	-	-	-	-
Water		-	-	-	80	80
Total - Zone B		9,891	922	-	80	10,893
GRAND TOTAL - Reach 1		9,993	922	-	80	10,995

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE II A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	^{3/} Acres	Production		
Unit	distribution		Unit	Per Acre	Total
4	Open land	102			
	Crops	92			
	Cotton	92	Lbs. Lint	405	37,260
	Cottonseed	(92)	Ton	3645	33.53
	Other <u>2/</u>	10			
	Woodland	-	Acres		
	TOTAL	102			

- 1/ One soil only; no summary required
2/ Farmsteads, farmroads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages.

Basin: St. Francis River
 Projects: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE III A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution			Per Acre		Per Unit	Per Acre	Return		
4	Open land	35								
	Crops	32								
	Cotton	32	Lbs.	440	14,080	.25	3,520	114.14	3,652	666
	Cottonseed	(32)	Ton	.3960	12.67	63.00	798			
	Other	3								
	Woodland	-								
	TOTAL	35	Acres				4,318		3,652	666

- 1/ One soil only; no summary required
- 2/ Farmsteads, farm roads, waste and non-agricultural
- 3/ Parenthetical amounts are duplicated acres.
- 4/ Total area zone A reduced by 67 acres drained without the project.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE IV A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
4	Open land	35								
	Crops	32								
	Cotton	32	Lbs.	565	18,080	.25	4,520	147.09	4,707	838
	Cottonseed	(32)	Ton	.5085	16.27	63.00	1,025			
	Other	3								
	Woodland									
	TOTAL	35 4/	Acres				5,545		4,707	838
1/	One soil only; no summary required									
2/	Farmsteads, farm roads, waste and non-agricultural									
3/	Parenthetical amounts are duplicated acreages.									
4/	Total area zone A reduced by 67 acres drained without the project.									

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE II B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop :	<u>3/</u>	Production		
Unit :	distribution	Acres	Unit	Per Acre:	Total
4	Open land	9,891			
	Crops	8,902		<u>4/</u>	
	Cotton	3,740	Lbs. Lint:	415	1,552,100
	Cottonseed	(3,740)	Ton	.3735	1,396.89
	Corn	356	Bu.	44	15,664
	Soybeans	2,225	Bu.	25	55,625
	Oats (Grain)	801	Bu.	34	27,234
	Oats (Sup. Past.)	(80)	Lbs. Beef:	75	6,000
	Grain Sorghum	267	Bu.	20	5,340
	Perm. Pasture	890	Lbs. Beef:	190	169,100
	Idle	623			
	Other <u>2/</u>	989			
	Woodland	922	Acres		
	TOTAL	<u>10,813</u>			
		<u>5/</u>			

- 1/ One soil only; no summary required
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages.
4/ 5.78 percent cropland drained.
5/ Total area zone B reduced by 80 acres water.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE III B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
4	Open land	10,168								
	Crops	9,151		4/						
	Cotton	4,575	Lbs. Lint	580	2,653,500	.25	663,375	154.57	707,158	106,670
	Cottonseed	(4,575)	Ton	5220	21,228	1.45	30,781	51.61	18,889	11,892
	Corn	326	Bu.	58	9,075	3.75	34,031	106.67	29,334	4,697
	Rice	275	Cwt.	33	66,352	2.30	152,610	33.06	75,641	76,969
	Soybeans	2,288	Bu.	29	27,520	.90	24,768	26.13	16,723	8,045
	Oats (Grain)	640	Bu.	43	43,200	.2005	8,662	12.36	3,955	4,707
	Oats (Sup. Past.)	(320)	Lbs. Beef	135	6,875	1.53	10,519	22.13	6,086	4,433
	Grain Sorghum	275	Bu.	25	88,000	.2005	17,644	43.61	11,993	5,651
	Perm. Pasture	275	Lbs. Beef	320						
	Idle	457								
	Other	1,017								
	Woodland	548	Acres			4.39	2,406	2.62	1,436	970
	TOTAL	10,716					1,095,249		871,215	224,034

1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages.
 4/ 52.81 percent cropland drained.
 5/ 50 percent cotton, 30 percent corn on drained land irrigated
 6/ Total area zone B reduced by 80 acres water and 97 acres woodland not anticipated to be cleared.

Basin:
Project:
Reach:
State:

St. Francis River
Ditch # 123
1
Arkansas

TABLE IV B 1/
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production	Cost of production	Net		
Unit : distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
4 : Open land	10,716									
: Crops	9,644									
: Cotton	5,401	Lbs. Lint	4/5	3,645,675	.25	911,419	172.05	929,242	188,887	
: Cottonseed	(5,401)	Ton	.6075	3,281.11	63.00	206,710				
: Corn	386	Bu.	67 5/8	25,862	1.45	37,500	60.32	23,284	14,216	
: Rice	193	Cwt.	34	6,562	3.75	24,607	108.92	21,022	3,585	
: Soybeans	2,122	Bu.	29	61,538	2.30	141,537	33.06	70,153	71,384	
: Oats (Grain)	675	Bu.	49	33,075	.90	29,767	29.87	20,162	9,605	
: Oats (Sup. Past.)	(337)	Lbs. Beef	155	52,235	.2005	10,473	14.50	4,886	5,587	
: Grain Sorghum	289	Bu.	25	7,225	1.53	11,054	22.13	6,396	4,658	
: Perm. Pasture	289	Lbs. Beef	375	108,375	.2005	21,729	50.34	14,548	7,181	
: Idle	289									
: Other	1,072									
: Woodland	-	Acres								
: TOTAL	10,716					1,394,796		1,089,693	305,103	
1 : One soil only; no summary required										
2 : Farmsteads, farm roads, waste and non-agricultural										
3 : Parenthetical amounts are duplicated acreages.										
4 : 90.02 percent cropland drained										
5 : 50 percent cotton, 30 percent corn on drained land irrigated										
6 : Total area zone B reduced by 80 acres water and 97 acres woodland not anticipated to be cleared.										

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1) Soil Unit	(2) Acres	(3) Future Without Project (Production In Dollars)	(4) Cost	(5) Net	(6) Future With Project (Production In Dollars)	(7) Cost	(8) Net	(9) Difference in Net Production
4	35	4,318	3,652	666	5,545	4,707	838	172
Subtotal	35 1/2	4,318	3,652	666	5,545	4,707	838	172
4	10,716	1,095,249	871,215	224,034	1,394,796	1,089,693	305,103	81,069
Subtotal	10,716 2/2	1,095,249	871,215	224,034	1,394,796	1,089,693	305,103	81,069
TOTAL	10,751	1,099,567	874,867	224,700	1,400,341	1,094,400	305,941	81,241

1/ Total area zone A reduced by 67 acres drained without the project
 2/ Total area zone B reduced by 80 acres water and 97 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1) Type of Conversions. 1/	(2) Total Amount Acres	(3) Cost of Clearing Dollars	(4) Cost of Smoothing Dollars	(5) Total Cost Dollars
Per Acre				
W To GC	xx	60	15	xx
W to IC	xx	-	-	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	534	32,040	8,010	40,050
W to IC	-	-	-	-
W to P	14	840	xx	840
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	32,880	8,010	40,890
Annual amortized value 2/	xx	xx	xx	2,240
Total annual cost of conversions	xx	xx	xx	2,240

1/ W - woodland; GC - general dry-farmed crops; IC - irrigated crops; (rice); P - pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation 2/	Annual Equivalent Instl. Cost 3/	Annual Maintenance Cost	Total Annual Cost
A	4 - General crops	32	425	41	49	90
	Subtotal	32	425	41	49	90
B	4 - General crops	3,705	49,272	4,747	5,685	10,432
	4 - Rice	29	251	24	10	34
	4 - Pasture	115	936	90	22	112
	Subtotal	3,849	50,459	4,861	5,717	10,578
	TOTAL	3,881	50,884	4,902	5,766	10,668

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 1
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	17,300	0.20	3,460
Right-of-way easements	Acres	4	30.00	120
Crossings	Each	3	300.00	900
Swinging water gaps	Each	3	40.00	120
Pipe drop structures	Each	1	200.00	200
Flap gates	Each	1	100.00	100
Vegetative plantings	Acres	3	8.00	24
Total construction cost	xx	xx	xx	4,924
Engineering cost	xx	xx	xx	492
Contingencies and legal	xx	xx	xx	492
Total installation cost				5,908
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				321
Annual maintenance cost				246
Annual loss of production - right-of-way <u>2/</u>				21
Total annual cost of required group facilities				588

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 1 acre @ \$20.90 per acre.

Basin:	St. Francis River
Project:	Ditch # 123
Reach:	1
State:	Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	305,941	xx
2. Net return without project	224,700	xx
3. Gross benefit to project	81,241	64,401 2/
4. Farm drainage cost	xx	xx 2/
a. Installation cost	4,902	xx
b. Maintenance cost	5,766	xx
c. Total	10,668	8,457
5. Group drainage cost	xx	xx 3/
a. Installation cost	321	xx
b. Maintenance cost 1/	267	xx
c. Total	588	488
6. Conversion cost	xx	xx 2/
a. Installation cost	2,240	xx
b. Maintenance cost	-	xx
c. Total	2,240	1,776
1/ Includes loss of production, right-of-way		
2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.		
3/ Discounted at 3 1/2 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.		

Basin: St. Francis River

Project: Ditch # 123

Reach: 2

State: Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map ping unit	: Open (Acres)	: Wooded (Acres)	: Urban (Acres)	: Water (Acres)	: Total (Acres)
Zone A	1	: 1,125	: 358	: -	: -	: 1,483
	4	: 15,333	: 51	: -	: -	: 15,384
	6	: 10	: 10	: -	: -	: 20
	11	: 2,251	: -	: -	: -	: 2,251
	12	: 9,727	: 20	: -	: -	: 9,747
Subtotal - all soils		: 28,446	: 439	: -	: -	: 28,885
Urban		: -	: -	: 205	: -	: 205
Water		: -	: -	: -	: 37	: 37
Total - Zone A		: 28,446	: 439	: 205	: 37	: 29,127
Zone B	1	: 1,486	: 1,601	: -	: -	: 3,087
	4	: 6,910	: 178	: -	: -	: 7,088
	11	: 89	: -	: -	: -	: 89
	12	: 52	: -	: -	: -	: 52
Subtotal - all soils		: 8,537	: 1,779	: -	: -	: 10,316
Urban		: -	: -	: -	: -	: -
Water		: -	: -	: -	: 122	: 122
Total - Zone B		: 8,537	: 1,779	: -	: 122	: 10,438
GRAND TOTAL - Reach 2		: 36,983	: 2,218	: 205	: 159	: 39,565

Basin: St. Francis River
 Project: Ditch #123
 Reach: 2
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop	2/ :	Production		
Unit :	distribution	Acres	Unit	Per Acre	Total
All :	Open land	15,614	:	:	:
:	Crops	14,053	:	3/ :	:
:	Cotton	6,562	Lbs.Lint:	396	2,597,745
:	Cottonseed	(6,562)	Ton	.3563	2,337.97
:	Soybeans	3,454	Bu.	24	82,753
:	Oats (Grain)	1,296	Bu.	31	40,677
:	Oats (Sup. Past.)	(587)	Lbs.Beef:	70	41,090
:	Grain Sorghum	503	Bu.	19	9,612
:	Perm. Pasture	1,173	Lbs.Beef:	180	211,140
:	Idle	1,065	:	:	:
:	Other 1/	1,561	:	:	:
:	Woodland	419	Acres	:	:
:	TOTAL	16,033 4/	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone A reduced by 205 acres urban, 37 acres water and 12,852 acres already drained or not requiring drainage

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 2
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Unit: distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
ALL: Open land						Dollars	Dollars	Dollars	Dollars	Dollars
Crops		6,112								
Cotton		5,501								
Cotton		2,906								
Cottonseed		(2,906)								
Corn		141								
Soybeans		1,039								
Oats (Grain)		315								
Oats (Sup. Past.)		(120)								
Grain Sorghum		315								
Perm. Pasture		470								
Idle		315								
Other		611								
Woodland		-								
TOTAL		6,112 7/					486,057		383,838	102,219 5/
										102,693 6/

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Includes calculated negative net return
- 6/ Adjusted to eliminate negative net return
- 7/ Total area Zone A reduced by 205 acres urban, 37 acres water, 419 acres woodland not anticipated to be cleared, and 22,354 acres already drained, nor requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop		2/ Acres	Unit	Production	Total	Value of production	Total	Cost of production	Total	Net
Unit: distribution				Per Acre		Per Unit		Per Acre		Return
All: Open land		6,112				Dollars	Dollars	Dollars	Dollars	Dollars
Crops		5,501		3/				4/		
Cotton		2,986	:lbs. lint	656	1,959,410	25	489,853	167.75	500,894	100,058
Cottonseed		(2,986)	Ton	5906	1,763.47	63.00	111,099			
Corn		157	Bu.	57	9,004	1.45	13,056	47.65	7,481	5,575
Soybeans		1,007	Bu.	28	27,955	2.30	64,296	32.07	32,295	32,001
Oats (Grain)		315	Bu.	47	14,870	.90	13,383	28.79	9,070	4,313
Oats (Sup. Past.)		(140)	:lbs. beef	147	20,600	2005	4,131	13.66	1,912	2,219
Grain Sorghum		259	Bu.	25	6,451	1.53	9,870	22.07	5,717	4,153
Perm. Pasture		494	:lbs. beef	390	192,490	2005	38,594	52.13	25,751	12,843
Idle		283								
Other 1/		611								
Woodland		-	Acres							
TOTAL		6,112 5/					744,282		583,120	161,162

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 205 acres urban, 37 acres water, 419 acres woodland not anticipated to be cleared, and 22,354 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River

Project: Ditch # 123

Reach: 2

State: Arkansas

SUMMARY - TABLE II B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	8,537			
	Crops	7,683			
	Cotton	3,148	Lbs. Lint:	380	1,196,690
	Cottonseed	(3,148)	Ton	.3421	1,077.02
	Corn	317	Bu.	44	13,948
	Rice	40	Cwt.	30	1,200
	Soybeans	2,178	Bu.	23	50,039
	Oats (Grain)	477	Bu.	28	13,498
	Oats (Sup. Past.)	(160)	Lbs. Beef	75	12,000
	Grain Sorghum	281	Bu.	20	5,512
	Perm. Pasture	190	Lbs. Beef	185	35,150
	Idle	1,052			
	Other <u>1/</u>	854			
	Woodland	1,779	Acres		
	TOTAL	10,316 <u>4/</u>			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone B reduced by 122 acres water.

Basin: St. Francis River

Project: Ditch #123

Reach: 2

State: Arkansas

SUMMARY - TABLE III B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS

COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION

PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT

(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Cost of production Per Acre	Total	Net Return	
ALL	Open land	9,124								
	Crops	8,211								
	Cotton	4,018	Lbs. Lint	479	1,926,470	.25	481,618	129.27	519,413	71,435
	Cottonseed	(4,018)	Ton	4315	1,733,82	63.00	109,230			
	Corn	293	Bu.	51	14,973	1.45	21,711	45.37	13,292	8,419
	Rice	53	Cwt.	31	1,643	3.75	6,161	102.19	5,416	745
	Soybeans	1,700	Bu.	27	45,621	2.30	104,928	31.34	53,279	51,649
	Oats (Grain)	663	Bu.	36	23,633	.90	21,270	22.44	14,880	6,390
	Oats (Sup. Past.)	(120)	Lbs. Beef	135	16,200	.2005	3,248	12.36	1,483	1,765
	Grain Sorghum	264	Bu.	23	6,103	1.53	9,337	20.97	5,535	3,802
	Perm. Pasture	246	Lbs. Beef	284	69,805	.2005	13,995	38.87	9,561	4,434
	Idle	974								
	Other	913								
	Woodland	785	Acres			3.88	3,046	2.30	1,805	1,241
	TOTAL	9,909	5/				774,544		624,664	149,880

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Calculated from Columns 3 and 10; rounded to nearest cent

5/ Total area Zone B reduced by 122 acres water and 407 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 2
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net	Return		
Unit: distribution			Per Acre		Per Unit	Per Acre	Total	Total	Dollars	Dollars
ALL	Open land	9,909								
	Crops	8,918								
	Cotton	4,806	Lbs. lint	609	2,925,675	.25	731,419	157.34	756,195	141,110
	Cottonseed	(4,806)	Ton	5479	2,633.11	63.00	165,886			
	Corn	332	Bu.	58	19,358	1.45	28,069	52.48	17,423	10,646
	Rice	74	Cwt.	34	2,516	3.75	9,435	108.92	8,060	1,375
	Soybeans	2,042	Bu.	27	55,250	2.30	127,075	31.58	64,493	62,582
	Oats (Grain)	699	Bu.	43	30,283	.90	27,255	26.62	18,605	8,650
	Oats (Sup. Past.)	(182)	Lbs. Beef	119	21,700	.2005	4,351	10.66	1,940	2,411
	Grain Sorghum	332	Bu.	24	8,078	1.53	12,359	21.72	7,210	5,149
	Perm. Pasture	267	Lbs. Beef	344	91,840	.2005	18,414	46.53	12,424	5,990
	Idle	366								
	Other	991								
	Woodland	-	Acres							
	TOTAL	9,909	5/				1,124,263		886,350	237,913

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 122 acres water and 407 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 2
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			Difference in Net Production
		Gross	Cost	Net	Gross	Cost	Net	
ZONE A - (not subject to flooding)								
1	890	33,244	29,817	3,901	82,931	68,532	14,399	10,498
4	5,222	452,813	354,021	98,792	661,351	514,588	146,763	47,971
Subtotal:	6,112	486,057	383,838	102,693	744,282	583,120	161,162	58,469
ZONE B - (subject to flooding)								
1	2,751	90,291	80,324	9,967	230,708	192,592	38,116	28,149
4	7,158	684,253	544,340	139,913	893,555	693,758	199,797	59,884
Subtotal:	9,909	774,544	624,664	149,880	1,124,263	886,350	237,913	88,033
TOTAL:	16,021	1,260,601	1,008,502	252,573	1,868,545	1,469,470	399,075	146,502

- 1/ Adjusted to eliminate negative net return
 2/ Total area Zone A reduced by 205 acres urban, 37 acres water, 419 acres woodland not anticipated to be cleared, and 22,354 acres already drained, not requiring drainage or not anticipated to be drained.
 3/ Total area Zone B reduced by 122 acres water and 407 acres woodland not anticipated to be cleared.

Basin: St. Francis River

Project: Ditch # 123

Reach: 2

State: Arkansas

TABLE VI
LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost Of Clearing	Cost of Smoothing	Total Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
<u>Per Acre</u>				
W to GC	xx	60	15	xx
W to IC	xx	60	15	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	743	44,580	11,145	55,725
W to IC	21	1,260	315	1,575
W to P	21	1,260	xx	1,260
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	24	xx	xx	-
Total project	xx	47,100	11,460	58,560
Annual amortized value <u>2/</u>	xx	xx	xx	3,208
Total annual cost of conversions	xx	xx	xx	3,208

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Ditch # 123
 Reach: 2
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation 2/	Annual Equivalent Cost 3/	Annual Maintenance Cost	Total Annual Cost
			Dollars	Dollars	Dollars	Dollars
A	1 - General crops	777	13,444	1,295	1,551	2,846
	1 - Pasture	24	223	21	5	26
	4 - General crops	4,230	56,255	5,420	6,491	11,911
	4 - Pasture	470	3,824	368	88	456
	Subtotal	5,501 1/	73,746	7,104	8,135	15,239
B	1 - General crops	1,492	25,817	2,487	2,979	5,466
	1 - Rice	48	415	40	16	56
	1 - Pasture	47	438	42	10	52
	4 - General crops	2,562	34,072	3,282	3,931	7,213
	4 - Pasture	79	643	62	15	77
	Subtotal	4,228 1/	61,385	5,913	6,951	12,864
	TOTAL	9,729 1/	135,131	13,017	15,086	28,103

- 1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized at 5 percent over 15 years

Basin: St. Francis River

Project: Ditch # 123

Reach: 2

State: Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	40,765	0.20	8,153
Right-of-way easements	Acres	28	30.00	840
Crossings	Each	6	300.00	1,800
Swinging water gaps	Each	6	50.00	300
Pipe drop structures	Each	4	200.00	800
Flap gates	Each	2	100.00	200
Vegetative plantings	Acres	28	8.00	224
Total construction cost	xx	xx	xx	12,317
Engineering cost	xx	xx	xx	1,232
Contingencies and legal	xx	xx	xx	1,232
Total installation cost				14,781
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				804
Annual maintenance cost				616
Annual loss of production - right-of-way <u>2/</u>				110
Total annual cost of required group facilities				1,530

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 7 acres @ \$15.77 per acre.

Basin: St. Francis River

Project: Ditch # 123

Reach: 2

State: Arkansas

TABLE IX
SUMMARY OF ANNUAL NET PRODUCTION RETURNS
AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted amount
	Dollars	Dollars
1. Net return with project	399,075	xx
2. Net return without project	252,573	xx
3. Gross benefit to project	146,502	116,134 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	13,017	xx
b. Maintenance cost	15,086	xx
c. Total	28,103	22,278
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	804	xx
b. Maintenance Cost <u>1/</u>	726	xx
c. Total	1,530	1,271
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	3,208	xx
b. Maintenance cost	-	xx
c. Total	3,208	2,543

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin:	St. Francis River
Project:	Big Bay Ditch # 1
State:	Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	4	17,992	2,386	-	-	20,378
	6	3,119	1,001	-	-	4,120
	7	2,745	326	-	-	3,071
	9	1,348	169	-	-	1,517
	10	7,399	787	-	-	8,186
	11	2,753	56	-	-	2,809
	12	2,978	19	-	-	2,997
	15 S	2,247	1,348	-	-	3,595
Subtotal - all soils		40,581	6,092	-	-	46,673
Urban		-	-	-	-	-
Water		-	-	-	9	9
Total Zone A		40,581	6,092	-	9	46,682
Zone B	4	516	58	-	-	574
	6	53	-	-	-	53
	12	38	-	-	-	38
Subtotal - all soils		607	58	-	-	665
Urban		-	-	-	-	-
Water		-	-	-	13	13
Total Zone B		607	58	-	13	678
GRAND TOTAL Project		41,188	6,150	-	22	47,360

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop	2/		Production	
Unit :	distribution	Acres	Unit	Per Acre:	Total
All :	Open land	32,348			
:	Crops	29,113		3/	
:	Cotton	10,661	Lbs. Lint	356	3,795,215
:	Cottonseed	(10,661)	Ton	.3204	3,415.70
:	Corn	1,561	Bu.	41	64,732
:	Rice	259	Cwt.	24	6,216
:	Soybeans	5,982	Bu.	20	119,804
:	Cats (Grain)	3,256	Bu.	28	90,211
:	Oats (Sup. Past.)	(1,975)	Lbs. Beef	65	128,260
:	Grain Sorghum	699	Bu.	20	13,744
:	Perm. Pasture	3,201	Lbs. Beef	180	576,180
:	Idle	3,494			
:	Other 1/	3,235			
:	Woodland	4,669	Acres		
:	TOTAL	37,017 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone A reduced by 9 Acres water and 9,656 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	15,143								
	Crops	13,629		3/				4/		
	Cotton	5,865	Lbs. Lint	388	2,275,570	.25	568,892	103.12	604,798	93,119
	Cottonseed	(5,865)	Ton	3492	2,048.00	63.00	129,025			
	Corn	1,193	Bu.	41	48,896	1.45	70,809	34.87	41,603	29,296
	Rice	173	Cwt.	25	4,325	3.75	16,218	87.64	16,162	1,056
	Soybeans	3,196	Bu.	24	76,509	2.30	175,971	28.98	92,631	83,340
	Oats (Grain)	992	Bu.	28	27,286	.90	24,557	18.18	18,032	6,525
	Oats (Sup. Past.)	(314)	Lbs. Beef	62	19,460	.2005	3,902	4.50	1,413	2,489
	Grain Sorghum	734	Bu.	21	15,201	1.53	23,257	19.48	14,297	8,960
	Perm. Pasture	685	Lbs. Beef	193	132,550	.2006	26,576	27.39	18,759	7,817
	Idle	791								
	Other	1,514								
	Woodland	892	Acres			4.46	3,978	2.58	2,300	1,678
	TOTAL	16,035 5/				1,043,275			808,995	234,280

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 9 acres water, 3,777 acres woodland not anticipated to be cleared, and 26,861 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Cost of production Per Acre	Net Return		
All	Open land	16,035								
	Crops	14,433		3/				4/		
	Cotton	6,403	Lbs. Lint	587	3,755,740	.25	938,935	151.36	969,137	182,748
	Cottonseed	(6,403)	Ton	5279	3,380.16	63.00	212,950			
	Corn	1,256	Bu.	56	70,623	1.45	102,402	47.38	59,509	42,893
	Rice	176	Cwt.	35	6,160	3.75	23,099	111.17	19,565	3,534
	Soybeans	3,386	Bu.	26	89,141	2.30	205,024	31.00	104,981	100,043
	Oats (Grain)	965	Bu.	42	40,624	.90	36,561	25.76	24,861	11,700
	Oats (Sup. Past.)	(384)	Lbs. Beef	99	37,850	2.005	7,589	8.44	3,241	4,348
	Grain Sorghum	771	Bu.	21	16,362	1.53	25,034	19.79	15,260	9,774
	Perm. Pasture	698	Lbs. Beef	344	240,400	2.005	48,200	46.59	32,520	15,680
	Idle	778								
	Other 1/	1,602								
	Woodland	-	Acres							
	TOTAL	16,035 5/					1,599,794		1,229,074	370,720

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 9 acres water, 3,777 acres woodland not anticipated to be cleared, and 26,861 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Big Bay Ditch #1
 State: Arkansas

TABLE II.B' 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop :	<u>3/</u>		Production	
Unit :	distribution :	Acres :	Unit :	Per Acre :	Total
4 :	Open land :	607 :			
	Crops :	546 :			
	Cotton :	240 :	Lbs.Lint:	405 :	97,200
	Cottonseed :	(240) :	Ton :	.3645 :	87.48
	Corn :	38 :	Bu. :	43 :	1,634
	Soybeans :	115 :	Bu. :	25 :	2,875
	Oats (Grain) :	55 :	Bu. :	33 :	1,815
	Grain Sorghum :	22 :	Bu. :	20 :	440
	Perm. Pasture :	33 :	Lbs.Beef:	180 :	5,940
	Idle :	43 :			
	Other <u>2/</u> :	61 :			
	Woodland :	58 :	Acres :		
	TOTAL :	665 <u>4/</u> :			

- 1/ One soil only; no summary required
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages.
4/ Total area zone B reduced by 13 acres water

Basin:	St. Francis River
Project:	Big Bay Ditch # 1
State:	Arkansas

TABLE III B 1/
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
(Based on projected prices)

[illegible]

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

TABLE IV B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
4	Open land	636								
	Crops	572		4/						
	Cotton	315	Lbs. Lint	545	171,675	25	42,919	143.05	45,061	7,592
	Cottonseed	(315)	Ton	4905	154,51	63.00	9,734			
	Corn	57	Bu.	58	3,306	1.45	4,794	48.43	2,761	2,033
	Soybeans	143	Bu.	29	4,147	2.30	9,538	33.06	4,728	4,810
	Oats (Grain)	23	Bu.	48	1,104	.90	994	29.25	673	321
	Grain Sorghum	17	Bu.	25	425	1.53	650	22.13	376	274
	Idle	17								
	Other	64								
	Woodland	-								
	TOTAL	636 5/	Acres				68,629		53,599	15,030
1/	One soil only; no summary required									
2/	Farmsteads, farm roads, waste and non-agricultural									
3/	Parentnetical amounts are duplicated acreages.									
4/	82.55 percent cropland drained									
5/	Total area zone B reduced by 13 acres water and 29 acres woodland not anticipated to be cleared.									

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Future Without Project (Production in Dollars)			Future With Project (Production in Dollars)			Difference in Net Production
		Gross	Cost	Net	Gross	Cost	Net	
4	8,014	684,545	522,971	161,574	ZONE A - (not subject to flooding)		223,896	62,322
6	1,705	61,129	53,152	7,977	977,928	754,032	35,280	27,303
7	1,564	107,110	76,962	30,148	173,065	137,785	38,390	8,242
9	574	31,403	24,570	6,833	149,142	110,752	10,062	3,229
10	4,178	159,088	131,340	27,748	43,562	33,500	63,092	35,344
Subtotal	16,035	1,043,275	808,995	234,280	256,097	193,005		
4	636	61,521	47,489	14,032	1,599,794	1,229,074	370,720	136,440
Subtotal	636	61,521	47,489	14,032	ZONE B - (subject to flooding)			
TOTAL	16,671	1,104,796	856,484	248,312	68,629	53,599	15,030	998
					68,629	53,599	15,030	998
							</	

1/ Total area zone A reduced by 9 acres water, 3,777 acres woodland not anticipated to be cleared, and 26,861 acres already drained, not requiring drainage or not anticipated to be drained.
 2/ Total area zone B reduced by 13 acres water, and 29 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	876	52,560	8,760	61,320
W to IC	3	180	30	210
W to P	13	780	xx	780
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	53,520	8,790	62,310
Annual amortized value 2/	xx	xx	xx	3,413
Total annual cost of conversions	xx	xx	xx	3,413

1/ W- woodland; GC - general dry-farmed crops; IC - irrigated crops; (rice); P - pasture.

2/ Amortized over 50 years at 5 percent

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1) Zone	(2) Soil mapping unit and land use	(3) Acres	(4) Total Cost Installation	(5) Annual Equivalent Instl. Cost	(6) Annual Maintenance	(7) Total Annual Cost
A	4 - General crops	7,213	95,926	9,242	11,068	20,310
	6 - General crops	1,535	21,571	2,078	3,319	5,397
	7 - General crops	1,352	26,048	2,509	3,006	5,515
	7 - Pasture	56	860	83	33	116
	9 - General crops	413	5,492	529	634	1,163
	9 - Rice	26	225	22	9	31
	9 - Pasture	78	635	61	15	76
	10 - General crops	3,046	40,509	3,903	4,674	8,577
	10 - Rice	150	1,246	120	48	168
	10 - Pasture	564	4,685	451	180	631
	Subtotal	14,433 1/2	197,197	18,998	22,986	41,984
B	4 - General crops	300	3,990	384	460	844
	Subtotal	300 1/2	3,990	384	460	844
	TOTAL	14,733 1/2	201,187	19,382	23,446	42,828

1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	134,800	0.20	26,960
Right-of-way easements	Acres	78	30.00	2,340
Crossings	Each	15	300.00	4,500
Swinging water gaps	Each	10	40.00	400
Pipe drop structures	Each	10	200.00	2,000
Flap gates	Each	6	100.00	600
Vegetative plantings	Acres	16	8.00	128
Total construction cost	xx	xx	xx	36,928
Engineering cost	xx	xx	xx	3,693
Contingencies and legal	xx	xx	xx	3,693
Total installation cost				44,314
Annual equivalent - installation cost (amortized for 30 years at $3\frac{1}{2}$ percent)				2,409
Annual maintenance cost				1,846
Annual loss of production - right-of-way <u>2/</u>				357
Total annual cost of required group facilities				4,612

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way, 24 acres @ \$14.89 per acre.

Basin: St. Francis River
 Project: Big Bay Ditch # 1
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	385,750	xx
2. Net return without project	248,312	xx
3. Gross benefit to project	137,438	85,379 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	19,382	xx
b. Maintenance cost	23,446	xx
c. Total	42,828	26,606
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	2,409	xx
b. Maintenance cost <u>1/</u>	2,203	xx
c. Total	4,612	3,830
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	3,413	xx
b. Maintenance cost	-	xx
c. Total	3,413	2,120

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3 $\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	:Soil map- :ping unit:	:Open (Acres):	:Wooded (Acres):	:Urban (Acres):	:Water (Acres):	:Total (Acres)
Zone A	:	:	:	:	:	:
	: 4	: 2,291:	342:	- :	- :	2,633
	: 7	: 4,651:	718:	- :	- :	5,369
	: 9	: 427:	171:	- :	- :	598
	: 10	: 3,967:	718:	- :	- :	4,685
	: 11	: 1,197:	171:	- :	- :	1,368
	: 15S	: 1,881:	325:	- :	- :	2,206
Subtotal - all soils	:	: 14,414:	2,445:	- :	- :	16,859
Urban	:	- :	- :	205 :	- :	205
Water	:	- :	- :	- :	- :	-
Total - Zone A	:	: 14,414:	2,445:	205 :	- :	17,064
Zone B	:	:	:	:	:	:
	: 4	: 1,187:	135:	- :	- :	1,322
	: 6	: 109:	55:	- :	- :	164
	: 7	: 1,523:	147:	- :	- :	1,670
	: 10	: 164:	117:	- :	- :	281
	: 11	: 141:	- :	- :	- :	141
Subtotal - all soils	:	: 3,124:	454:	- :	- :	3,578
Urban	:	- :	- :	- :	- :	-
Water	:	- :	- :	- :	96:	96
Total - Zone B	:	: 3,124:	454:	- :	96:	3,674
GRAND TOTAL - Reach 1	:	: 17,538:	2,899:	205 :	96:	20,738
	:	:	:	:	:	:

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	11,036			
	Crops	9,932		3/	
	Cotton	1,950	Lbs. Lint	351	685,050
	Cottonseed	(1,950)	Ton	.3162	616.54
	Corn	976	Bu.	41	39,772
	Rice	215	Cwt.	26	5,652
	Soybeans	336	Bu.	20	6,804
	Oats (Grain)	1,845	Bu.	26	47,309
	Oats (Sup. Past.)	(880)	Lbs. Beef	63	55,150
	Perm. Pasture	2,383	Lbs. Beef	180	428,940
	Idle	2,227			
	Other 1/	1,104			
	Woodland	1,949	Acres		
	TOTAL	12,985 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area Zone A reduced by 205 acres urban and 3,874 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	land use and crop	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Acres	Per Acre	Per Acre	Per Acre	Per Acre	Per Acre	Per Acre	Total	Return
						Dollars	Dollars	Dollars	Dollars	Dollars
ALL	Open land	5,026								
	Crops	4,524								
	Cotton	1,517	Lbs. lint	384 3/4	583,255	.25	145,814	101.97	154,685	24,200
	Cottonseed	(1,517)	Ton	.3460	524.93	63.00	33,071			
	Corn	680	Bu.	43	29,088	1.45	42,178			
	Rice	156	Cwt.	25	3,900	3.75	14,625			
	Soybeans	856	Bu.	26	22,484	2.30	51,713			
	Oats (Grain)	686	Bu.	27	18,435	.90	16,592			
	Oats (Sup. Past.)	(297)	Lbs. Beef	58	17,295	2005	3,467			
	Grain Sorghum	78	Bu.	19	1,482	1.53	2,267			
	Perm. Pasture	297	Lbs. Beef	193	57,185	2005	11,466			
	Idle	254								
	Other 1/	502								
	Woodland	709	Acres			9.54	6,764			
	TOTAL	5,735 5/8					327,957	5.51	3,907	2,857
									246,190	81,767

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 205 acres urban, 1,240 acres woodland not anticipated to be cleared, and 9,884 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : land use and crop	Acres	2/	Unit	Production : Per Acre	Total	Value of production : Per Unit	Total	Cost of production : Per Acre	Total	Net Return
Unit : distribution						Dollars	Dollars	Dollars	Dollars	Dollars
All : Open land	5,735									
: Crops	5,162									
: Cotton	1,730			533	922,910	.25	230,727	139.35	241,084	41,973
: Cottonseed	(1,730)			4801	830,63	63.00	52,330			
: Corn	773			57	44,045	1.45	63,865	47.63	36,821	27,044
: Rice	179			35	6,265	3.75	23,494	111.17	19,899	3,595
: Soybeans	974			27	26,635	2.30	61,261	31.82	30,997	30,264
: Oats (Grain)	785			42	32,750	.90	29,475	25.56	20,068	9,407
: Oats (Sup. Past.)	(328)			100	32,820	2.005	6,580	8.60	2,821	3,759
: Grain Sorghum	89			19	1,691	1.53	2,587	18.42	1,639	948
: Perm. Pasture	341			352	119,955	2.005	24,051	47.49	16,194	7,857
: Idle	291									
: Other 1/	573									
: Woodland	-									
: TOTAL	5,735	5/					494,370		369,523	124,847

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone A reduced by 205 acres urban, 1,240 acres woodland not anticipated to be cleared, and 9,884 acres already drained, not requiring drainage, or not anticipated to be drained.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>2/</u>	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	3,124			
	Crops	2,812			
	Cotton	675	:Lbs.Lint:	<u>3/</u> 431	290,625
	Cottonseed	(675)	: Ton	3875	261.56
	Corn	378	: Bu.	45	16,965
	Soybeans	248	: Bu.	26	6,423
	Oats (Grain)	456	: Bu.	35	16,163
	Oats (Sup. Past.)	(115)	:Lbs.Beef:	85	9,775
	Grain Sorghum	39	: Bu.	21	819
	Perm. Pasture	518	:Lbs.Beef:	214	110,755
	Idle	498			
	Other <u>1/</u>	312			
	Woodland	454	: Acres		
	TOTAL	3,578 <u>4/</u>			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone B reduced by 96 acres water.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	Unit	Production	Per Acre	Total	Value of production: Per Unit	Total	Cost of production: Per Acre	Total	Net Return
Unit: distribution						Dollars	Dollars	Dollars	Dollars	Dollars
ALL : Open land	3,253									
: Crops	2,928									
: Cotton	1,191	Lbs. Lint	502	3/	597,475	25	149,369	131.79	156,959	26,287
: Cottonseed	(1,191)	Ton	4515		537,72	63.00	33,877			
: Corn	436	Bu.	52		22,515	1.45	32,646	43.80	19,095	13,551
: Soybeans	655	Bu.	29		19,020	2.30	43,746	33.10	21,679	22,067
: Oats (Grain)	293	Bu.	43		12,485	.90	11,236	25.89	7,585	3,651
: Oats (Sup. Past.)	(42)	Lbs. Beef	100		4,200	2005	842	8.60	361	481
: Grain Sorghum	70	Bu.	25		1,750	1.53	2,677	22.13	1,549	1,128
: Perm. Pasture	42	Lbs. Beef	295		12,390	2005	2,484	40.55	1,703	781
: Idle	241									
: Other 1/	325									
: Woodland	195	Acres				9,54	1,861	5.51	1,075	786
TOTAL	3,448	5/					278,738		210,006	68,732

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area Zone B reduced by 96 acres water and 130 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	Acres	2/	Unit	Production	Value of production	Cost of production	Net			
Unit: distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All : Open land	3,448									
: Crops	3,103			3/				4/		
: Cotton	1,338		:Lbs. lint	550	25	183,870	143.95	192,605	32,967	
: Cottonseed	(1,338)		:Ton	4947	661.93	41,702				
: Corn	532		:Bu.	56	29.653	42,996	46.85	24,923	18,073	
: Soybeans	694		:Bu.	29	20.151	46,347	33.10	22,968	23,379	
: Oats (Grain)	310		:Bu.	47	14.549	13,093	28.58	8,861	4,232	
: Oats (Sup. Past.)	(44)		:Lbs. Beef	130	5.720	1,147	11.83	521	626	
: Grain Sorghum	76		:Bu.	25	1,900	2,907	22.13	1,682	1,225	
: Perm Pasture	44		:Lbs. Beef	360	15,840	3,176	48.50	2,134	1,042	
: Idle	109									
: Other 1/	345									
: Woodland	-		: Acres							
: TOTAL	3,448	5/				335,238		253,694	81,544	

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 96 acres water and 130 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

TABLE V
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Acres	Future Without Project (Production in Dollars)		Net	Future With Project (Production in Dollars)		Net	Difference in Net Production
Unit		Gross	Cost		Gross	Cost		
ZONE A - (not subject to flooding)								
4	1,063	84,126	64,660	19,466	122,414	95,477	26,937	7,471
7	2,685	174,115	123,828	50,287	249,393	181,020	68,373	18,086
10	1,987	69,716	57,702	12,014	122,563	93,026	29,537	17,523
Subtotal	5,735	327,957	246,190	81,767	494,370	369,523	124,847	43,080
ZONE B - (subject to flooding)								
4	1,681	142,561	110,969	31,592	175,661	137,056	38,605	7,013
7	1,626	121,438	87,284	34,154	144,838	104,885	39,953	5,799
11	141	14,739	11,753	2,986	14,739	11,753	2,986	-
Subtotal	3,448	278,738	210,006	68,732	335,238	253,694	81,544	12,812
TOTAL:	9,183	606,695	456,196	150,499	829,608	623,217	206,391	55,892

1/ Total area Zone A reduced by 205 acres urban, 1,240 acres woodland not anticipated to be cleared, and 9,884 acres already drained, not requiring drainage or not anticipated to be drained.
2/ Total area Zone B reduced by 96 acres water and 130 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
<u>Per Acre</u>				
W to GC	xx	60	15	xx
W to IC	xx	60	15	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	835	50,100	12,525	62,625
W to IC	23	1,380	345	1,725
W to P	46	2,760	xx	2,760
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	54,240	12,870	67,110
Annual amortized value <u>2/</u>	xx	xx	xx	3,676
Total annual cost of conversions	xx	xx	xx	3,676

1/ W-woodland; GC-general dry-farmed crops; IC - irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation	Annual Equivalent Instl. Cost	Annual Maintenance Cost	Total Annual Cost
			Dollars	Dollars	Dollars	Dollars
A	4 - General crops	957	12,727	1,226	1,468	2,694
	7 - General crops	2,344	45,160	4,351	5,211	9,562
	7 - Pasture	73	1,122	108	43	151
	10 - General crops	1,341	17,834	1,718	2,058	3,776
	10 - Rice	179	1,487	143	57	200
	10 - Pasture	268	2,227	215	86	301
	Subtotal	5,162 ^{1/4}	80,557	7,761	8,923	16,684
B	4 - General crops	444	5,904	569	681	1,250
	7 - General crops	605	11,656	1,123	1,345	2,468
	7 - Pasture	19	292	28	11	39
	Subtotal	1,068 ^{1/4}	17,852	1,720	2,037	3,757
	TOTAL	6,230 ^{1/4}	98,409	9,481	10,960	20,441

- ^{1/} Does not include 10 percent "other" land
^{2/} Includes engineering and contingency
^{3/} Amortized at 5 percent over 15 years.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

TABLE VIII
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	39,600	0.20	7,920
Right-of-way easements	Acres	14	30.00	420
Crossings	Each	4	400.00	1,600
Swinging water gaps	Each	6	40.00	240
Pipe drop structures	Each	4	200.00	800
Flap gates	Each	4	100.00	400
Vegetative plantings	Acres	6	8.00	48
Total construction cost	xx	xx	xx	11,428
Engineering cost	xx	xx	xx	1,143
Contingencies and legal	xx	xx	xx	1,143
Total installation cost				13,714
Annual equivalent - installation cost (amortized for 30 years at 3½ percent)				746
Annual maintenance cost				571
Annual loss of production - right-of-way <u>2/</u>				115
Total annual cost of required group facilities				1,432

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 7 acres @ \$16.39 per acre.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 1
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	:	(2)	:	(3)
Item	:	Total	:	Discounted
	:	Dollars	:	Amount
	:		:	Dollars
1. Net return with project	:	206,391	:	xx
2. Net return without project	:	150,499	:	xx
3. Gross benefit to project	:	55,892	:	34,721 <u>2/</u>
4. Farm drainage cost	:	xx	:	xx <u>2/</u>
a. Installation cost	:	9,481	:	xx
b. Maintenance cost	:	10,960	:	xx
c. Total	:	20,441	:	12,698
5. Group drainage cost	:	xx	:	xx <u>3/</u>
a. Installation cost	:	746	:	xx
b. Maintenance cost <u>1/</u>	:	686	:	xx
c. Total	:	1,432	:	1,189
6. Conversion cost	:	xx	:	xx <u>2/</u>
a. Installation cost	:	3,676	:	xx
b. Maintenance cost	:	-	:	xx
c. Total	:	3,676	:	2,284

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE I
 PRESENT LAND USE

Zone	Soil map: ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	: 7	: 2,655	: 201	: -	: -	: 2,856
	: 10	: 191	: 19	: -	: -	: 210
	: 15S	: 9,246	: 5,254	: -	: -	: 14,500
Subtotal - all soils		: 12,092	: 5,474	: -	: -	: 17,566
Urban		: -	: -	: 669	: -	: 669
Water		: -	: -	: -	: 16	: 16
Total - Zone A		: 12,092	: 5,474	: 669	: 16	: 18,251
Zone B	: 7	: 374	: 32	: -	: -	: 406
Subtotal - all soils		: 374	: 32	: -	: -	: 406
Urban		: -	: -	: 264	: -	: 264
Water		: -	: -	: -	: 21	: 21
Total - Zone B		: 374	: 32	: 264	: 21	: 691
GRAND TOTAL - Reach 2		: 12,466	: 5,506	: 933	: 37	: 18,942

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE II A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	:	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil	:	Land use and crop	:	<u>3/</u>	:	Production	:		:	
Unit	:	distribution	:	Acres	:	Unit	:	Per Acre	:	Total
7	:	Open land	:	2,641	:		:		:	
	:	Crops	:	2,377	:		:		:	
	:	Cotton	:	285	:	Lbs. Lint	:	350	:	99,750
	:	Cottonseed	:	(285)	:	Ton	:	.3150	:	89.77
	:	Corn	:	380	:	Bu.	:	40	:	15,200
	:	Oats (Grain)	:	404	:	Bu.	:	30	:	12,120
	:	Oats (Sup. Past.)	:	(202)	:	Lbs. Beef	:	70	:	14,140
	:	Perm. Pasture	:	761	:	Lbs. Beef	:	180	:	136,980
	:	Idle	:	547	:		:		:	
	:	Other <u>2/</u>	:	264	:		:		:	
	:	Woodland	:	220	:	Acres	:		:	
	:	TOTAL	:	2,861 <u>4/</u>	:		:		:	

- 1/ One soil only; no summary required
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages
4/ Total area Zone A reduced by 669 acres urban, 16 acres water, and 14,705 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE III A 2/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return		
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
7	Open land	1,128								
:	Crops	1,015								
:	Cotton	355	Lbs. lint	400	142,000	.25	35,500	104.72	37,176	6,375
:	Cottonseed	(355)	Ton	3600	127.80	63.00	8,051			
:	Corn	254	Bu.	44	11,176	1.45	16,205	36.85	9,360	6,845
:	Soybeans	254	Bu.	29	7,366	2.30	16,942	33.06	8,397	8,545
:	Oats (Grain)	102	Bu.	34	3,468	.90	3,121	21.16	2,158	963
:	Oats (Sup. Past.)	(25)	Lbs. Beef	70	1,750	.2005	351	5.37	134	217
:	Perm. Pasture	30	Lbs. Beef	220	6,600	.2005	1,323	31.35	940	383
:	Idle	20								
:	Other 2/	113								
:	Woodland	74	Acres			9.54	706	5.51	408	298
:	TOTAL	1,202 4/					82,199		58,573	23,626

- 1/ One soil only; no summary required
 2/ Farmsteads, farm roads, waste and non-agricultural
 3/ Parenthetical amounts are duplicated acreages
 4/ Total area Zone A reduced by 669 urban, 16 acres water, 146 woodland not anticipated
 to be cleared, and 16,218 acres already drained, not requiring drainage, or not anticipated to be drained.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE IV A 1/
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop			Production			Value of production			Cost of production	Net
Unit: distribution	Acre	3/	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
7 : Open land	1,202									
: Crops	1,082									
: Cotton	379		Lbs. Lint	54.0	204,660	.25	51,165	141.74	53,719	9,050
: Cottonseed	(379)		Ton	4860	184.19	63.00	11,604			
: Corn	270		Bu.	58	15,660	1.45	22,707	48.43	13,076	9,631
: Soybeans	270		Bu.	29	7,830	2.30	18,009	33.06	8,926	9,083
: Oats (Grain)	108		Bu.	49	5,292	.90	4,763	29.87	3,226	1,537
: Oats (Sup. Past.)	(33)		Lbs. Beef	145	4,785	.2005	959	13.43	443	516
: Perm. Pasture	33		Lbs. Beef	395	13,035	.2005	2,614	52.78	1,742	872
: Idle	22									
: Other <u>2/</u>	120									
: Woodland	-		Acre							
: TOTAL	1,202	4/					111,821		81,132	30,689

- 1/ One soil only; no summary required
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages
4/ Total area Zone A reduced by 669 acres urban, 16 acres water, 146 acres woodland not anticipated to be cleared, and 16,218 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE II B 1/

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	3/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
7	Open land	374			
	Crops	337			
	Cotton	40	Lbs.Lint	350	14,000
	Cottonseed	(40)	Ton	.3150	12.60
	Corn	54	Bu.	40	2,160
	Oats (Grain)	57	Bu.	30	1,710
	Oats (Sup. Past.)	(28)	Lbs.Beef	70	1,960
	Perm. Pasture	108	Lbs.Beef	180	19,440
	Idle	78			
	Other <u>2/</u>	37			
	Woodland	32	Acres		
	TOTAL	406 <u>4/</u>			

1/ One soil only; no summary required

2/ Farmsteads, farm roads, waste and non-agricultural

3/ Parenthetical amounts are duplicated acreages

4/ Total area Zone B reduced by 264 acres urban, 21 acres water

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE III B 1/
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop				Production		Value of production		Cost of production		Net
Unit: distribution	Acres	3/	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
7 : Open land	374									
: Crops	337			4/						
: Cotton	118		Lbs. Lint	4.35	51,330	.25	12,832	113.07	13,342	2,401
: Cottonseed	(118)		Ton	.3915	46,20	63.00	2,911			
: Corn	67		Bu.	47	3,149	1.45	4,566	39.57	2,651	1,915
: Soybeans	84		Bu.	29	2,436	2.30	5,603	33.06	2,777	2,826
: Oats (Grain)	34		Bu.	38	1,292	.90	1,163	23.23	790	373
: Oats (Sup. Past.)	(10)		Lbs. Beef	90	900	.2005	180	7.52	75	105
: Perm. Pasture	10		Lbs. Beef	265	2,650	.2005	531	36.86	369	162
: Idle	24									
: Other <u>2/</u>	37									
: Woodland	-		Acres							
: TOTAL	374	5/					27,786		20,004	7,782

- 1/ One soil only; no summary required
2/ Farmsteads, farm roads, waste and non-agricultural
3/ Parenthetical amounts are duplicated acreages
4/ 24.87 percent cropland drained
5/ Total area Zone B reduced by 264 acres urban, 21 acres water, and 32 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE IV B ^{3/}
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution			Per Acre		Per Unit	Per Acre	Return		
7	Open land	374								
	Crops	337		4/						
	Cotton	118	Lbs. Lint	500	59,000	.25	14,750	130.65	15,417	2,678
	Cottonseed	(118)	Ton	4500	53.10	63.00	3,345			
	Corn	84	Bu.	54	4,536	1.45	6,577	45.53	3,825	2,752
	Soybeans	84	Bu.	29	2,436	2.30	5,603	33.06	2,777	2,826
	Oats (Grain)	34	Bu.	45	1,530	.90	1,377	27.36	930	447
	Oats (Sup. Past.)	(10)	Lbs. Beef	120	1,200	*2005	241	10.74	107	134
	Perm. Pasture	10	Lbs. Beef	340	3,400	*2005	682	46.05	460	222
	Idle	7								
	Other <u>1/</u>	37								
	Woodland	-	Acres							
	TOTAL	374	5/				32,575		23,516	9,059

^{1/} Farmsteads, farm roads, waste and non-agricultural
^{2/} Parenthetical amounts are duplicated acreages
^{3/} One soil only; no summary required
^{4/} 70.05 percent cropland drained
^{5/} Total area Zone B reduced by 264 acres urban, 21 acres water, and 32 acres woodland not anticipated to be cleared.

Basin: St. Francis River

Project: Eight Mile Creek Ditch

Reach: 2

State: Arkansas

TABLE V
REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
Soil Unit	Acres	Gross	Future Without Project (Production in Dollars)	Cost	Net	Gross	Future With Project (Production in Dollars)	Cost	Net	Difference in Net Production
ZONE A - (not subject to flooding)										
7	1,202	82,199	58,573	23,626	111,821	81,132	30,689	7,063		
Subtotal	1,202	82,199	58,573	23,626	111,821	81,132	30,689	7,063		
ZONE B - (subject to flooding)										
7	374	27,786	20,004	7,782	32,575	23,516	9,059	1,277		
Subtotal	374	27,786	20,004	7,782	32,575	23,516	9,059	1,277		
TOTAL	1,576	109,985	78,577	31,408	144,396	104,648	39,748	8,340		

1/ Total area Zone A reduced by 669 acres urban, 16 acres water, 146 acres woodland not anticipated to be cleared, and 16,218 acres already drained, not requiring drainage or not anticipated to be drained.

2/ Total area Zone B reduced by 264 acres urban, 21 acres water, and 32 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJCT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
<u>Per Acre</u>				
W to GC	xx	60	15	xx
W to IC	xx	-	-	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	71	4,260	1,065	5,325
W to IC	-	-	-	-
W to P	3	180	xx	180
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	4,440	1,065	5,505
Annual amortized value <u>2/</u>	xx	xx	xx	302
Total annual cost of conversions	xx	xx	xx	302

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation <u>2/</u>	Annual Equivalent Instl. Cost <u>3/</u>	Annual Maintenance Cost	Total Annual Cost
A	7 - General crops	1,049	20,210	1,947	2,332	4,279
	7 - Pasture	33	507	49	19	68
	Subtotal	1,082 <u>1/</u>	20,717	1,996	2,351	4,347
						321
B	7 - General crops	148	2,851	275	329	604
	7 - Pasture	4	61	6	2	8
	Subtotal	152 <u>1/</u>	2,912	281	331	612
	TOTAL	1,234 <u>1/</u>	23,629	2,277	2,682	4,959

- 1/ Does not include 10 percent "Other" land
2/ Includes engineering and contingency
3/ Amortized at 5 percent over 15 years

Basin: St. Francis River
 Project: Eight Mile Creek Ditch
 Reach: 2
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	39,748	xx
2. Net return without project	31,408	xx
3. Gross benefit to project	8,340	6,611 <u>1/</u>
4. Farm drainage cost	xx	xx <u>1/</u>
a. Installation cost	2,277	xx
b. Maintenance cost	2,682	xx
c. Total	4,959	3,931
5. Group drainage cost	xx	xx <u>2/</u>
a. Installation cost	-	xx
b. Maintenance cost	-	xx
c. Total	-	-
6. Conversion cost	xx	xx <u>1/</u>
a. Installation cost	302	xx
b. Maintenance cost	-	xx
c. Total	302	239

1/ Discounted at 5 percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

2/ No group drainage; no table VIII required.

Basin:	St. Francis River
Project:	Locust Creek Ditch
State:	Arkansas

TABLE I
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Water (Acres)	Total (Acres)
Zone A	3	194	82	-	-	276
	4	3,609	368	-	-	3,977
	7	7,219	2,198	-	-	9,417
	10	12,280	3,967	-	-	16,247
	11	941	10	-	-	951
	11SU	348	10	-	-	358
	12SU	2,117	215	-	-	2,332
	15S	18,476	10,726	-	-	29,202
Subtotal - all soils		45,184	17,576	-	-	62,760
Urban		-	-	-	-	-
Water		-	-	-	56	56
Total - Zone A		45,184	17,576	-	56	62,816
Zone B	3	19	9	-	-	28
	4	3,671	1,335	-	-	5,006
	6	58	191	-	-	249
	10	87	9	-	-	96
	11	631	-	-	-	631
	12SU	117	43	-	-	160
Subtotal - all soils		4,583	1,587	-	-	6,170
Urban		-	-	-	-	-
Water		-	-	-	134	134
Total - Zone B		4,583	1,587	-	134	6,304
GRAND TOTAL-Project		49,767	19,163	-	190	69,120

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

SUMMARY - TABLE II A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil : Land use and crop	2/	Production			
Unit : distribution	Acres	Unit	Per Acre	Total	
All : Open land	21,877				
: Crops	19,890		3/		
: Cotton	3,430	:Lbs.Lint	322	:1,105,520	
: Cottonseed	(3,430)	: Ton	:.2901	: 994.96	
: Corn	1,329	: Bu.	: 41	: 54,066	
: Rice	531	: Cwt.	: 25	: 13,344	
: Soybeans	681	: Bu.	: 17	: 11,853	
: Oats (Grain)	4,140	: Bu.	: 23	: 96,950	
: Oats (Sup.Past.)	(2,075)	:Lbs.Beef	: 60	: 124,250	
: Perm. Pasture	4,787	:Lbs.Beef	: 180	: 861,660	
: Idle	4,792				
: Other 1/	2,187				
:Woodland	6,615	: Acres			
: TOTAL	28,492 4/				

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone A reduced by 56 acres water, and 34,268 acres already drained or not requiring drainage.

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

SUMMARY - TABLE III A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1) Soil: Unit:	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All:	Open land	10,297								
	Crops	9,267		3/				4/		
	Cotton	2,675	Lbs. Lint	356	953,305	.25	238,326	96.15	257,193	35,185
	Cottonseed	(2,675)	Ton	3207	857.97	63.00	54,052			
	Corn	1,045	Bu.	41	42,818	1.45	62,086	34.72	36,287	25,799
	Rice	517	Cwt.	25	12,925	3.75	48,469	87.64	45,310	3,159
	Soybeans	1,490	Bu.	24	35,455	2.30	81,546	28.85	42,988	38,558
	Oats (Grain)	1,703	Bu.	24	41,314	.90	37,183	16.66	28,376	8,807
	Oats (Sup. Past.)	(1,069)	Lbs. Beef	56	60,295	.2005	12,089	3.90	4,171	7,918
	Grain Sorghum	258	Bu.	19	4,902	1.53	7,500	18.42	4,752	2,748
	Perm. Pasture	867	Lbs. Beef	189	163,615	.2005	32,805	26.72	23,166	9,639
	Idle	712								
	Other 1/	1,030								
	Woodland	2,392	Acres			6.65	15,906	3.98	9,520	6,386
	TOTAL	12,689 5/					589,962		451,763	138,199

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone A reduced by 56 acres water, 4,223 acres woodland not anticipated to be cleared, and
 45,848 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

SUMMARY - TABLE IV A
 ZONE FOR DRAINAGE CALCULATIONS ONLY
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop		Acres	Unit	Production	Total	Per Unit	Total	Cost of production	Total	Net
Units: distribution				Per Acre				Per Acre		Return
All: Open land						Dollars	Dollars	Dollars	Dollars	Dollars
Crops		12,689		3/				4/		
Cotton		11,420				.25	415,369	133.02	434,575	74,999
Cottonseed		3,267	Lbs. Lint	509	1,661,480					
Corn		(3,267)	Ton	.4577	1,495.32	63.00	94,205			
Rice		1,281	Bu.	55	70,653	1.45	102,446	46.09	59,043	43,403
Soybeans		645	Cwt.	35	22,575	3.75	84,656	111.17	71,705	12,951
Oats (Grain)		1,827	Bu.	26	47,178	2.30	108,510	30.69	56,068	52,444
Oats (Sup. Past.)		2,110	Bu.	39	82,540	.90	74,286	24.02	50,682	23,604
Grain Sorghum		(1,303)	Lbs. Beef	94	122,770	2.005	24,615	7.97	10,390	14,225
Perm. Pasture		323	Bu.	19	6,137	1.53	9,390	18.42	5,950	3,440
Idle		1,081	Lbs. Beef	346	373,755	2.005	74,938	46.75	50,540	24,398
Other		886								
Woodland		1,269								
TOTAL		12,689	Acres				988,415		738,951	249,464

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 56 acres water, 4,223 acres woodland not anticipated to be cleared, and 45,848 acres already drained, not requiring drainage or not anticipated to be drained.

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

SUMMARY- TABLE II B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil: Land use and crop :	2/			Production	
Unit: distribution :	Acres :	Unit :	Per. Acre:	Total	
All: Open land	: 4,583	:	:	:	:
: Crops	: 4,125	:	:	3/	:
: Cotton	: 1,510	: Lbs.Lint:	444	:	671,100
: Cottonseed	: (1,510)	: Ton :	.4000	:	603.99
: Corn	: 447	: Bu. :	47	:	21,054
: Soybeans	: 587	: Bu. :	26	:	15,262
: Oats (Grain)	: 722	: Bu. :	38	:	27,706
: Oats (Sup.Past.)	: (206)	: Lbs.Beef:	95	:	19,570
: Grain Sorghum	: 104	: Bu. :	21	:	2,184
: Perm. Pasture	: 206	: Lbs.Beef:	240	:	49,440
: Idle	: 549	:	:	:	:
: Other 1/	: 458	:	:	:	:
: Woodland	: 1,587	: Acres :	:	:	:
: TOTAL	: 6,170	:	:	:	:
:	: 4/	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages.
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Total area zone B reduced by 134 acres water.

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

SUMMARY - TABLE III B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Acres	Per Acre	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
						Dollars	Dollars	Dollars	Dollars	Dollars
All	Open land	4,990								
	Crops	4,491		3/				4/		
	Cotton	2,091	Lbs. Lint	534	1,116,780	.25	279,194	141.61	296,097	46,419
	Cottonseed	(2,091)	Ton	4807	1,005,10	63.00	63,322			
	Corn	463	Bu.	54	25,133	1.45	36,443	46.18	21,381	15,062
	Soybeans	898	Bu.	29	26,180	2.30	60,214	33.21	29,824	30,390
	Oats (Grain)	449	Bu.	45	20,205	.90	18,184	27.36	12,285	5,899
	Grain Sorghum	190	Bu.	25	4,750	1.53	7,267	22.13	4,205	3,062
	Idle	400								
	Other	499								
	Woodland	695	Acres			6.65	4,622	3.98	2,766	1,856
	TOTAL	5,685 5/					469,246		366,558	102,688

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 134 acres water and 485 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Locust Creek Ditch
 States: Arkansas

SUMMARY - TABLE IV B
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution			Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
						Dollars	Dollars	Dollars	Dollars	Dollars
All	Open land	5,685								
	Crops	5,116		3/				4/		
	Cotton	2,593	Lbs.	573	1,484,890	.25	371,222	149.65	388,035	67,381
	Cottonseed	(2,593)	Ton	5154	1,336,40	63.00	84,194			
	Corn	525	Bu.	59	30,753	1.45	44,592	49.34	25,903	18,689
	Soybeans	1,023	Bu.	29	29,805	2.30	68,551	33.19	33,956	34,595
	Oats (Grain)	511	Bu.	48	24,763	.90	22,286	29.53	15,091	7,195
	Grain Sorghum	222	Bu.	25	5,550	1.53	8,491	22.13	4,913	3,578
	Idle	242								
	Other	569								
	Woodland		Acres							
	TOTAL	5,685	5/				599,336		467,898	131,438

1/ Farmsteads, farm roads, waste and non-agricultural
 2/ Parenthetical amounts are duplicated acreages
 3/ Calculated from Columns 3 and 6; rounded to nearest unit
 4/ Calculated from Columns 3 and 10; rounded to nearest cent
 5/ Total area zone B reduced by 134 acres water and 485 acres woodland not anticipated to be cleared.

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

TABLE V
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Acres	Gross	Future Without Project (Production in Dollars)	Net	Gross	Future With Project (Production in Dollars)	Net	Difference in Net Production
Unit			Cost			Cost		
4	1,323	103,383	79,575	23,808	152,401	118,871	33,530	9,722
7	4,197	251,714	178,981	72,733	389,828	282,905	106,923	34,190
10	7,169	234,865	193,207	41,658	446,186	337,175	109,011	67,353
Subtotal:	12,689	589,962	451,763	138,199	988,415	738,951	249,464	111,265
4	4,916	388,860	302,513	86,347	518,950	403,853	115,097	28,750
11	769	80,386	64,045	16,341	80,386	64,045	16,341	-
Subtotal:	5,685	469,246	366,558	102,688	599,336	467,898	131,438	28,750
TOTAL:	18,374	1,059,208	818,321	240,887	1,587,751	1,206,849	380,902	140,015
1/	Total area zone A reduced by 56 acres water, 4,223 acres woodland not anticipated to be cleared, and 45,848 acres acres already drained, not requiring drainage or not anticipated to be drained.							
2/	Total area zone B reduced by 134 acres water and 485 acres woodland not anticipated to be cleared.							

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

TABLE VI
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	2,745	164,700	27,450	192,150
W to IC	128	7,680	1,280	8,960
W to P	214	12,840	xx	12,840
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	185,220	28,730	213,950
Annual amortized value 2/	xx	xx	xx	11,720
Total annual cost of conversions	xx	xx	xx	11,720
1/ W- woodland; GC - general dry-farmed crops; IC - irrigated crops; (rice); P - pasture.				
2/ Amortized over 50 years at 5 percent				

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

TABLE VII
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Acres	Total Cost Installation	Annual Equivalent Instl. Cost	Annual Maintenance Cost	Total Annual Cost
A	4 - General crops	1,191	15,839	1,526	1,828	3,354
	7 - General crops	3,664	70,590	6,801	8,145	14,946
	7 - Pasture	113	1,737	167	67	234
	10 - General crops	4,839	64,354	6,200	7,425	13,625
	10 - Rice	645	5,358	516	206	722
	10 - Pasture	968	8,042	775	309	1,084
	Subtotal	11,420	165,920	15,985	17,980	33,965
B	4 - General crops	1,639	21,797	2,100	2,515	4,615
	Subtotal	1,639	21,797	2,100	2,515	4,615
	TOTAL	13,059	187,717	18,085	20,495	38,580

- 1/ Does not include 10 percent "other" land
 2/ Includes engineering and contingency
 3/ Amortized over 15 years at 5 percent

Basins:	St. Francis River
Project:	Locust Creek Ditch
State:	Arkansas

TABLE VIII
ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation ^{1/}				
Spreading spoil ^{1/}				
Clearing right-of-way ^{1/}	Cubic Yard	112,500	0.20	22,500
Right-of-way easements	Acres	23	30.00	690
Crossings	Each	12	400.00	4,800
Swinging water gaps	Each	10	50.00	500
Pipe drop structures	Each	10	200.00	2,000
Flap gates	Each	10	100.00	1,000
Vegetative plantings	Acres	45	8.00	360
Total construction cost	xx	xx	xx	31,850
Engineering cost	xx	xx	xx	3,185
Contingencies and legal	xx	xx	xx	3,185
Total installation cost				38,220
Annual equivalent - installation cost (amortized for 30 years at 3½ percent)				2,078
Annual maintenance cost				1,592
Annual loss of production - right-of-way ^{2/}				157
Total annual cost of required group facilities				3,827

^{1/} These items included in excavation costs under normal contract procedures.

^{2/} Annual loss of production - right-of-way. 12 acres @ \$13.11 per acre.

Basin: St. Francis River
 Project: Locust Creek Ditch
 State: Arkansas

TABLE IX
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	380,902	xx
2. Net return without project	240,887	xx
3. Gross benefit to project	140,015	86,980 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	18,085	xx
b. Maintenance cost	20,495	xx
c. Total	38,580	23,967
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	2,078	xx
b. Maintenance cost <u>1/</u>	1,749	xx
c. Total	3,827	3,178
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	11,720	xx
b. Maintenance cost	-	xx
c. Total	11,720	7,281

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at $3\frac{1}{2}$ percent to account for estimated 10 year lag to full installation, maintenance and benefit accrual.

